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Or.—Original Article.
C. R.—Case Report.
B. M.—Bedside Medicine.
E. C.—Editorial Comment.
C. N.—Clinical Notes.
L. M. H.—Lure of Medical History.

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BOARD OF MEDICAL EXAMINERS OF THE STATE OF CALIFORNIA

By CHARLES B. PINKHAM, M. D.
Secretary-Treasurer

News Items

Reports relate that J. Lane Kendall, licensed chiropractor, was on November 18, 1932, sentenced to pay a fine of $600 or serve two hundred days in the county jail, following his conviction of contributing to the delinquency of a minor, he electing to serve the county jail sentence.

The individual who called himself Dr. Alfred A. Hesse, former intern at the San Joaquin General Hospital, must have made his way to New York City, inasmuch as the Cadillac sedan which he was purchasing on installment payments from a Los Angeles firm was reported found in a New York garage. A warrant is pending against Hesse, charging him with violation of the Medical Practice Act.

According to report, Mario S. Llano was arrested in San Francisco, November 14, by Inspector Jarrett of the State Narcotic Division, who is said to have found in his possession a number of cans of marihuana. In addition, he was said to have found "many volumes of books, laboratory paraphernalia, test tubes, etc.," some of which assertedly belonged to the San Francisco Hospital. According to information, Llano was violating the Medical Practice Act, in addition to the charge of violating the State Narcotic Law.

Manuel Machado, convicted in Santa Barbara County in 1929 on a charge of violation of the Medical Practice Act, which conviction was sustained on appeal (99 Cal. App. 702) has been located in the United States Industrial Reformatory, Chillicothe, Ohio, where he is said to be incarcerated on a counterfeiting charge. Machado's chiropractic license was revoked January 17, 1930. (Previous entries, December, 1928; May, June, and September, 1929.)

E. Osmun, referred to in "News Items" of the December, 1931, issue, as assertedly victimizing physicians, from whom he collects a small fee under promise of making them examiners for various insurance companies, was reported recently sentenced in Los Angeles to twenty days in jail, following his plea of guilty to petty theft charges. It is said after he has served the twenty-day jail sentence in Los Angeles, he will be taken to San Diego to answer to a complaint filed November 30, 1932, based upon an allegation that Osmun had obtained $3.99 from each of about fifteen physicians in and about San Diego on pretense that their names would appear in a publication called "National Insurance Examiner," which, so far as we have been able to ascertain, is nonexistent.

On December 5 the Appellate Court, First Division, affirmed the judgment of the Board of Medical Examiners, entered July 8, 1931, suspending the license of Christopher Howson for a period of one year, based upon aiding and abetting an unlicensed practitioner.

"Walking out of the courtroom of Justice L. A. Maynard today, after receiving a sentence on a charge of practicing medicine without a state license, L. C. Hornschu, fifty-three, of San Francisco was rearrested by Police Chief A. F. Herritt on a warrant sent here from Sonoma, charging a similar violation. . . . The court decreed (on the Napa charge) sentence of six months, execution of which was ordered suspended on condition that Hornschu cease his medical activities and not violate any other law. . . . Herritt turned the custody of Hornschu over to J. W. Davidson, Investigator of the State Board of Medical Examiners, who was to take him into Judge Small's court at Sonoma. Davidson has been gathering evidence against Hornschu, following complaints made to the medical board by persons who claim they were bilked" (Napa *Register*, December 1, 1932).

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* This is the remainder of the index printed in the December California and Western Medicine, containing the items listed in the State Examining Board column of Volume XXXVII.

> state conferences have been held carrying to every part of the nation a fresh inspiration in this high service and the further extension of newly organized knowledge for the benefit of childhood. Your conference in California will be one of the most important of all these and I wish you Godspeed in your unselfish and invaluable labors.

Two hundred representative individuals attended the opening session and there was marked enthusiasm over the prospect of conducting a two-year program throughout the state in the interest of child health and protection.

On the following day, November 12, both morning and afternoon sessions were held in the Civic Auditorium. Dr. Herbert R. Stolz, chairman of the Institute for Child Study at the University of California, presided in the absence of President Robert G. Sproul of the University of California. The morning session opened with an address, "The Value of State-Wide Organization" by Dr. R. E. Swain, acting president of Stanford University. Dr. Tully C. Knoles, president of the College of the Pacific at Stockton, talked upon the subject of "Community Responsibility." Dr. Giles S. Porter, director of the State Department of Public Health and chairman of Governor Rolph's personal representatives, discussed "The Health Workers' Field in the Conference." "What the Social Worker Can Contribute" was the subject of an address by Mrs. Rheba Crawford Splivalo, director of the State Department of Social Welfare, and Mr. Vierling Kersey, director of the State Department of Education, talked upon the subject "What the Educator Can Contribute." The plan of organization of the Conference was outlined by Mr. N. P. Neilson, Superintendent of Physical Education in the State Department of Education. At the end of the morning session, Dr. William P. Shepard, secretary of the Western Branch of the American Public Health Association, summarized the morning's discussion. Group meetings were held in the afternoon. The Governor's White House Conference Committee and the County Executive Committee members met in Polk Hall. Dr. Robert E. Swain presided at this session and Mr. N. P. Neilson led the discussion. Section meetings were held as follows:

Medical Service—Dr. William Palmer Lucas, chairman.

Public Health Service and Administration—Dr. John J. Sippy, chairman.

Education and Training—Dr. Edna W. Bailey, chairman.

Social Welfare—Mrs. T. E. Shucking, chairman.

At three o'clock the individuals in attendance assembled in a general meeting at which plans of work were presented by the section chairmen. Under the general state plan, the conference will be carried to the people in every community of the state. The organization, as developed by the State Executive Committee, calls for this accomplishment. District conferences will be held in Los Angeles, Fresno, Oakland, and Sacramento. A county conference will be held in each county of the state and one or more conferences will be held in each community of the state. The community conferences, in fact, constitute the key conferences. Local conditions influencing child welfare will be evaluated against the standards and criteria which were established in President Hoover's original White House Conference. It is desired that members of each community of the state shall be informed upon child welfare and that their interest in a forward-looking program shall be developed. It will require at least two years for the complete program to be worked out.

After the community conferences have been held, county conferences will be called for the purpose of gathering recommendations and reports of accomplishments in the various communities. After the county conferences, district conferences will be held for the purpose of gathering together and summarizing the results that may have been achieved in the various counties. Finally, another state conference will be held at which a new program of child health and protection for California will be developed. Following is an outline of the four sections into which the conference is divided, together with the principal committees that will work under each section:

Section 1. Medical Service:
  Growth and Development
  Prenatal and Maternal Care
  Medical Care

Section 2. Public Health Service and Administration:
  Public Health Organization
  Communicable Disease Control
  Milk Production and Control

Section 3. Education and Training:
  The Family and Parent Education
  The Infant and Preschool Child
  The School Child
  Vocational Guidance
  Child Labor
  Recreation
  Physical Education
  Special Classes
  Youth Outside of Home and School

Section 4. Social Welfare:
  Community Organization for Social Welfare
  Physically Handicapped
  Mentally Handicapped
  Dependency and Neglect
  Delinquency and Probation
  Foster Homes and Adoption
  Institutional Relations
  Family Guidance and Coöperation

. . . Following are the names of the state section and committee chairmen:

Section I:
  Medical Service, Dr. William Palmer Lucas
    A. Growth and Development, Dr. Herbert Stolz
    B. Prenatal and Maternal Care, Dr. Adelaide Brown
    C. Medical Care, Dr. Henry Dietrich

Section II:
  Public Health Service and Administration, Dr. John J. Sippy
    A. Public Health Organization, Dr. J. D. Dunshee
    B. Communicable Disease Control, Dr. Walter H. Brown
    C. Milk Production and Control, Dr. Sam H. Greene.

Section III:
  Education and Training, Dr. Edna W. Bailey
    A. The Family and Parent Education, Mrs. W. J. Bingham
    B. The Infant and Preschool Child, Dr. Lovisa Wagoner
    C. The School Child, Dr. Anita Laton
    D-1 Vocational Guidance
    D-2 Child Labor
    E-1 Recreation, Mr. Charles Davis
    E-2 Physical Education, Mr. Charles Davis
    F. Special Classes, Mrs. B. C. Clark
    G. Youth Outside of Home and School, Miss Josephine Randall

Section IV:
  Social Welfare, Mrs. T. E. Shucking
    A. Community Organization for Social Welfare, Mrs. Walter Van Dyke
    B-1 Physically Handicapped, Mrs. Leo Youngworth
    B-2 Mentally Handicapped, Miss Louise Lombard
    C-1 Dependency and Neglect, Miss Louise Drury
    C-2 Delinquency and Probation, Mrs. A. S. Musante
    D-1 Foster Homes and Adoptions, Mrs. Grace Y. Hudson
    D-2 Institutional Relations, Mrs. Harry Geballe
    D-3 Family Guidance and Coöperation, Mrs. C. E. Hunter

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FEMUR NECK FRACTURES—THE AUTOGENOUS BONE-GRAFT PEG AS A PRIMARY TREATMENT FOR FRESH FRACTURES*

By Fred H. Albee, M. D.
New York, New York

FRACTURE of the central portion of the neck of the femur is physiologically, biologically, and mechanically most unfavorable to union. In the first place, the fracture is located completely within a joint, and so situated that a solution of continuity through the neck of the femur cuts off the proximal fragment from its blood supply from the trochanteric region. If the ligamentum teres suffers avulsion or tear, the blood supply is then completely shut off. It is impossible to speak in definite terms as to the relative amount of blood supply to the head and proximal portion of the neck of the femur, coming from these two sources, but certainly it is safe to say that considerably more than 50 per cent comes normally from the trochanteric region of the femur. Inasmuch as callus formation has been proved repeatedly, by my own animal experimental work and that of others, to be in direct relationship to the amount of blood brought to the part, the importance of this consideration is obvious.

From an anatomical standpoint this fracture is unfavorable because, being at the neck of the main portion of a ball and socket joint, the diameter is less than that of any other portion of the femur. Union of bone is always in direct relation to the cross section of the bone at the point of fracture. The larger the cross section of the bone through which the fracture occurs the more readily it unites.

From a mechanical standpoint this fracture is unfavorable because the proximal fragment is practically a sphere in a slippery joint cavity and very likely to move at the slightest cause. Furthermore, being in a joint, the fracture space is immediately filled by synovial fluid which, from its mere mechanical presence and (according to Cotton) its dissolving influence upon early callus, is inhibitory to callus formation. Lastly, as the fracture is completely within a joint, there is no periosteum with its osteogenetic influence nor is there blood supply coming to the point of fracture from overlying peripheral soft parts, as is the case in fractures extra-articularly situated.

METHODS OF OVERCOMING OBSTACLES TO UNION

From the foregoing discussion it is quite apparent that treatment, from the beginning, should be directed to overcoming these obstacles to union, that is, we should, if possible, provide physiological and biological influences, *plus* mechanical immobilization. The autogenous bone-graft peg is the *only* method of treatment which offers any chance of fulfilling all these requirements, because:

1. *Physiologically* it promptly establishes blood supply by acting as an ideal medium in conducting blood from the vascular cancellous great trochanter and the distal end of the neck to the region of the fracture and the anemic capital fragment. One of the outstanding features of a bone graft is its early and profuse vascularization.

2. *Biologically* it introduces active living bone of high proliferative potentiality.

3. *Mechanically* it insures absolute fixation with accurate contact of surfaces by means of a bone graft tibial peg of great strength, an important point of consideration.

OBJECTIONS TO METHODS USING NAILS

Nails are destructive foreign bodies and have antibiological and physiological influences, as those of us who have been removing them for years and observing their destructive influence can emphatically attest. The shape of the nail is of little significance, except that the larger the cross section of the nail the greater its destructive capability. The neck of the femur is composed of dense unyielding cortex on the outside, which will not give way under pressure, and of spongy cancellous bone in the interior. Its cancellous cubic content is definitely limited, and therefore any metal driven into the interior of this yielding tissue is bound to produce compression at the periphery and interfere with circulation. As long as the total area of the cross section of the nail remains the same it does not matter whether the nail is round, square, or flange; it produces compression and destruction of tissue in any event. This is quite the contrary in the case of the autogenous bone peg for which a drill hole of exact measurements has first been prepared. Instead of interfering with circulation, it stimulates it because of the autogenous living nature of the material.

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* Read before the General Surgery Section of the California Medical Association at the sixty-first annual session, Pasadena, May 2-5, 1932.

Smith-Petersen emphasizes the fact that the flange nail has the advantage of insuring sustained and complete fixation, whereas the nails previously used afforded only "partial and temporary fixation." He says further: "Because of its flanges the nail is gripped by the cortex of the bone, so that there can be no rotation; because of its shape the surface area is much greater than that of the ordinary nail, and friction is proportionately increased; because of the minimum displacement of bone there is less pressure necrosis surrounding it; consequently the fixation is sustained and complete, not temporary and partial."

If the problem were purely one of immobilization, this argument might hold, but I cannot agree that there is a minimum displacement of bone and diminished pressure necrosis; for, as brought out in the preceding paragraph, this is dependent on the total cross section of the nail, and not its shape. An autogenous bone graft, having extreme accuracy of fit, produces no pressure necrosis nor occlusion of blood vessels by pressure. This accuracy of fit, as exact as that of a glass stopper in a bottle, is absolutely essential. It can only be produced by power-driven automatic tools. Closest coaptation of the Haversian canals of the host and graft tissues is thereby assured so that early and complete vascular canalization of the graft will take place. This is not only essential to the early vascularization of the graft, but also serves to carry blood and callus-forming material to the anemic capital fragment and to the point of fracture. Autogenous pegs inaccurately shaped by hand instruments are to be avoided as much as the proverbial square peg in a round hole. They permit dead spaces, filled with air, blood-clot, or tissue débris between the surfaces of the graft and the host bone tissues, thus interfering with one essential to success—early vascularization. Too tight a fit is also to be condemned, and can be avoided by the use of automatic instruments.

AUTOGENOUS BONE-GRAFT PEG OPERATION

I first described this operation in 1913 in Murphy's clinics. In nonunions the joint is exposed by an anterior incision straight downward from the anterior superior spine; a second incision is made over the great trochanter for the purpose of inserting the bone-graft peg. The neck of the femur is inspected through the anterior incision. Eversion of the foot and limb causes the femoral fragments to separate anteriorly, and the ends of both are then thoroughly freshened with osteotome and mallet. The foot is then restored to the anteroposterior axis and sufficient abduction (about 30 degrees) and traction applied, by means of the table, to bring the freshened fragment ends into close apposition.

Attention is next turned to the short incision over the trochanter which has been carried down to the fascia covering the vastus externus. Both these structures are now split longitudinally so as to expose the lateral surface of the great trochanter. The point of application of the drill is inserted one-half inch below the bony ridge to which the fascia overlying the vastus externus is attached. Since the direction of the drill must follow the central line of the neck, due consideration must be given to the angulation of the neck with both the axis of the femur and the vertical intertrochanteric plane. In the average adult the neck makes an angle of 130 degrees with the femur, and 12 degrees with the vertical intertrochanteric plane, when the foot is in the anteroposterior plane.

With the motor drill held in the direction thus indicated, a hole one-half inch in diameter is drilled through from the lateral aspect of the great trochanter to the broken end of the distal fragment. This point is determined by the instrumental palpation of the head of the drill between the opposed fragments. The reading on the drill indicates the length of penetration through the distal fragment. With the drill head against the freshened end of the capital fragment, it is now carried into this fragment until the reading shows sufficient penetration. The total degree of penetration usually required is seven or eight centimeters (two and one-half inches) and is determined by a study of the roentgenogram. The drill is left *in situ* while a graft is taken from the crest of the tibia of the same side.

The tibia is exposed by a generous incision over its lower third. This lower portion is preferred on account of the greater thickness and strength of the cortex. A portion is chosen where the crest is straight and regular, and the muscle and soft tissues dissected away. With my motor saw, converging longitudinal cuts are made on each side of the crest at a suitable angle with each other and at an interval sufficient to provide a peg one-half inch in diameter after shaping. Two transverse saw cuts are now made at an interval equal to the reading on the drill, and the segment loosened by means of an osteotome and gentle blows of a mallet. The stronger end of this segment is seized by two Ochsner clamps. The other end is inserted in the "pencil-sharpener cutter" attached to the dowel shaper, by means of which the end is shaped to a blunt conical point favorable not only for subsequent engagement in the dowel tool, but for reception in the drill hole already prepared in the femoral fragments. The pencil-sharpener attachment is now replaced by the dowel tool and the peg run through it. During both these shaping processes, a drip of normal saline is arranged to fall constantly on the tool, not only to hasten its cutting, but to relieve any possibility of undue heat. The saline solution also prevents dehydration of the graft by exposure to the air. Moreover, in the industries, either oil or saline solutions are used in the cutting of hard substances, for the purpose of clearing débris from the path of the cutting instrument, as well as for increasing the speed of cutting and for diminishing friction.

The drill is now removed from the trochanter, and the peg inserted in its place and driven home with the bone drift and mallet. With the end of the handle of a wooden mallet against the great trochanter, close to the peg graft, I insure close approximation or impaction of the fragments by striking another mallet or a small sand bag against the head of the mallet.

The deep fascia is closed by interrupted sutures of No. 1 chromic catgut and the skin with a continuous suture of No. 0 plain catgut. The limb is put up in a posture of slight abduction in a double plaster of Paris spica extending to the base of the toes on the affected side and to the knee on the sound side.

COMMENT

Let us examine in detail some of the points in this technique. I have mentioned the necessity for consideration of the relation of the neck of the femur to the planes of the body. It was stated at a meeting of some of the world's most eminent orthopedic surgeons that the operation was "too difficult for any but the special few." I would be in agreement with that statement if it were impossible for all but the few to visualize the course of the femoral neck and to direct their operative procedure in accordance with the clear anatomical demands. The results which one eminent surgeon showed in roentgenograms of bone pegs that missed the capital fragment entirely, or went clear through into the pelvis, would make one tremble for the future of surgery if it were to forsake so completely its foundation on the precise knowledge of anatomy.

Success in surgery depends more on anticipation of difficulties than on skill in overcoming the unexpected. By means of the graduated drill and palpation between the fragments, one can determine the point to which the drill hole ought to be carried. No phenomenal skill is required; all that is demanded is preparation, prevision, and precision. Objection has also been taken to the necessity for making two incisions, with a consequent lengthening of operative time. In cases of fresh fracture, I make only the one incision over the trochanter (for inserting the bone-graft peg), since it is not necessary to expose the fracture ends for freshening as in the case of nonunion. As for operating time, with my electrically driven tools, this operation requires a maximum of from twenty to thirty minutes.

It is my opinion that conservative mechanical means alone will not produce satisfactory results in cases of fresh fracture of the central portion of the neck of the femur. The comparative study of end-results following all accepted methods of treatment of fresh and ununited fractures of this particular type (made by the special committee which I appointed in 1928, as president-elect of the American Orthopedic Association), has thoroughly convinced me that the initial treatment of these fresh fractures can only be successful if it provides for *more* than mechanical immobilization. For many years the Whitman abduction method has been commonly used as the primary treatment, and operative intervention reserved for cases of persistent nonunion. The findings of this committee were of special interest to me. One fact was outstanding: end-results as found by the survey did not justify the previous widespread confidence in conservative, nonoperative measures. Their study, conducted for two years, revealed such a high percentage of unfavorable end-results secured by the very best clinics in this country and abroad, following conservative treatment, that I now unhesitatingly recommend the use of the autogenous bone-graft peg in every case of fresh fracture near the central portion of the neck of the femur, unless a surgical operation of average magnitude is definitely contraindicated. Since this operation has given such a high percentage of favorable results in cases of nonunion, I believe that its use as a primary treatment for fresh fractures of this type is amply justified.

57 West Fifty-seventh Street.

TREATMENT OF HYDROCELE—RESEARCHES IN NEW SOLUTIONS FOR THE INJECTION TREATMENT: RESULTS COMPARED WITH OPERATION*

CLINICAL PRIZE PAPER OF THE SIXTY-FIRST ANNUAL SESSION OF THE CALIFORNIA MEDICAL ASSOCIATION

By Norman J. Kilbourne, M. D.
and
Charles J. Murray, M. D.
Los Angeles

THE patient who undergoes a surgical operation for hydrocele is usually a breadwinner. The number of days which he must spend in the hospital, as will be shown later, averages more than ten, and if to this are added three more days before he returns to work, he loses, on the average, thirteen days of employment. Valuing this on an average at six dollars a day, he has this total account of expenses:

	Cost per Patient
Thirteen days loss of time at $6	$78.00
Ten days in the hospital at $6 per day per room	60.00
Operating room	10.00
Laboratory	4.00
Registration	3.00
Pharmacy	3.00
Anesthetist	10.00
	$168.00

Total for 6000 patients per year, $1,000,000.

The above cost does not leave anything to be paid to the doctor! Nor does it include the personal inconvenience of being confined to bed for more than ten days and certain surgical complications and risks which we shall show to be unavoidable in hydrocele surgery.

We have therefore made laboratory and clinical experiments to ascertain whether the injection treatment of hydrocele could be developed with a solution which would exclude very serious drawbacks in the old injection methods and at the same time avoid unhappy consequences of operation.

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* This paper was submitted under the nom de plume, "Epictetus," and was awarded the clinical prize of one hundred and fifty dollars, at the sixty-first annual session of the California Medical Association, Pasadena, May 2-5, 1932.

THE INJECTION TREATMENT OF HYDROCELE

The injection treatment of hydrocele dates back to the ancient Romans, among whom Celsus records[1] the use of saltpeter solution for injection, as well as the practice of surgical excision of part of the sac. We can find no record of treatment in the Middle Ages. In the seventeenth century, in France, Lembert[2] injected cases with sublimate dissolved in lime water, and in the eighteenth century two Scottish army surgeons, both named Munro,[3] had a number of cures, using hot and cold water or red wine.[‡] In 1832 Sir Ranald Martin, in Calcutta, discovered the use of tincture of iodin.[5] With iodin, a single hospital within seven years reported 2393 cases injected, with success claimed in 99 per cent of cases.[6] As protagonists and advocates of the injection treatment, there appeared Velpeau, Syme, Billroth, Konig, Kocher,[6] Bull, and McBurney.[7]

There were, however, objections to treatment by injecting tincture of iodin. It caused pain and disability, requiring hospital treatment on an average of eight days in the Kiel clinic, nine days in the Billroth clinic, and sometimes weeks in the Charity Hospital of Berlin.[8]

Furthermore, after all this pain and disability after a single injection, there were, according to some clinics, recurrences. Inexperienced workers had abscesses and sloughs. The profession was, therefore, ready to consider operation when it was proposed in 1876 by Bergmann and by Hartman, and later by Volkmann, and by Winkelmann. From this time on, clean and open surgery was urged.

Other attempts to improve injection treatment have been made, using less painful solutions. Phenol was advocated by Hüter in Germany[6] and was popularized in America by Levis in 1881.[9] Phenol causes less pain than tincture of iodin, but the pain and disability are nevertheless sufficient to necessitate relief from work, if not complete bed rest in many patients for from one to four days.[*][4, 10]

The discovery of solutions safe and suitable for injection into varicose veins for their obliteration has opened a new chapter in surgery. Already several English surgeons have used the solutions, found so successful for varicose veins, in the injection treatment of hydrocele. Gray has tried sodium chlorid;[11] Porritt[12] and also Levi[13] have used sodium morrhuate with success in thirty cases. Pybus[14] has reported five cases treated with quinin hydrochlorid and urethan in the same strength as used in varicose veins. Ronald Thornhill, in London, has used quinin dihydrochlorid, but has not reported results.[15] Sharma has used quinin dihydrochlorid with a little salicylic acid (.5 per cent) added,[†][16] but has not reported results.

EXPERIMENTAL

The authors have searched for an ideal solution, one so nearly perfect that it should make surgery in most cases unnecessary. To meet such an ideal a solution must meet these requirements:

1. It must be painless.

2. It must not cause disability. The patient must not be kept from work after injection. Painless solutions are less likely to be followed by severe tissue reactions causing disability.

3. It must be efficient in destroying all hydroceles, without recurrences, including even old hydroceles with thickened walls. If a solution is painless and causes no disability, there is no objection to its use in repeated injections until its action is so radical and extensive that possibility of recurrence is excluded.

4. It must not be dangerously toxic.

5. It should be bactericidal in order to avoid infection.

6. It must not subject the patient to the danger of hemorrhage into the sac, following injection.

ELIMINATION OF PAIN

In order to find out what solution could be used with little or no pain, we injected the solutions shown in Table 1 into the lateral aspect of the thigh in ten healthy young men, mostly medical students. It was not assumed that the pain caused by injecting one of these solutions subcutaneously is the same as that caused by injecting it into a hydrocele sac. The experiment is intended to show the comparative pain-producing powers under the skin, and the probabilities run high that these solutions have similar comparative pain-producing powers, as compared with each other, in the hydrocele sac. To prevent the difficulty of one site being possibly more susceptible to pain than another, the sites of injection in the thigh with the different solutions were rotated. Injection was made at the rate of .240 cubic centimeters in eighty seconds. Two injections were made on one side and three injections on the other side. An effort was made to avoid fatigue of the pain nerves. With one exception, the subjects did not know what solution was injected at any time. They were told to report barely perceptible pain sensation as one plus, sharp pain as two plus, violent pain as three plus, and excruciating pain as four plus. The responses were in sufficient agreement to indicate that the test was reliable.

Tincture of iodin in only a one-minim dose caused excruciating pain. Phenol 98 per cent caused violent pain. When the phenol was diluted

---

[‡] Treatment by inserting a thread or other type of seton has been ascribed to the ancient Arabians. Pott, Sir James Earle, and Green tried it. Allis collected reports of twelve cases of abscess, three sloughs, one case of peritonitis, and one death from gangrene and septicemia following use of the seton.[4]

[*] Note:—In France Morestin has used a mixture of equal parts of formaldehyde, glycerin and alcohol with some success.[10] Other solutions tried have been zinc chlorid by Dunmicher, Podaillion, Berthod, Boch, and Brenner; adrenalin by Rupfle, Dzwonki, Mohr, and D'Haenens; chloroform by Langenbech, Middledorpf, Billroth, Stetz and Poussart; chromic acid by Mellilko; and chloral hydrate by Lampugnani. The results from these solutions were not encouraging. See Bruns as above. Wesson has tried mercurochrome 5 per cent, but has been unenthusiastic over results: California and West. Med. 31:127, Aug. 1929.

[†] It is surmised that Sharma added salicylic acid as a substitute for phenol. Whenever a carboxyl radical is added to the phenol group the toxicity is reduced. Salicylic acid, of course, represents such a modification of the phenol group.

Table 1.—*Comparative Pain-producing Properties of Various Solutions Injected Subcutaneously at the Rate of .240 c.c. in Eighty (80) Seconds.*

Solution	Number of Injections	CC. Injected	Degree of Pain	Average Degree of Pain
1. Physiological sodium chlorid solution (control)	9	.240	+ 0 0 0 0 0 0 0 +	0 to 0 +
2. Tincture iodin	1	.060	+ + + +	+ + + +
3. Morestin's solution: Formaldehyde Glycerine Alcohol a. a.	1	.240	+ + + to + + + +	
4. Phenol 98 per cent	3	.240	+ + + + + + + + +	+ + +
5. Phenol 87 per cent in glycerin and water a.a.	4	.240 .240 .120 .120	+ + + + + + +	+ +
6. Quinin dihydrochlorid 13.33 per cent with phenol 5 per cent	4	.240	+ + + + + + + + + +	+ +
7. Quinin dihydrochlorid 13.33 per cent with salicylic acid 1.14 per cent	5	.060 .120 .240 .240 .240	+ + + + + + + + + + +	+ +
8. Quinin dihydrochlorid 13.33 per cent	5	.240	+ + 0 + 0 +	+ to 0
9. Quinin dihydrochlorid 10 per cent	6	.240	0 + + + + + to + + + 0 +	+
10. Quinin dihydrochlorid 13.33 per cent with urethan 6.66 per cent	..	.240 .240 .480 .480 .480 .480 .480 .480	0 0 0 0 0 0 0 +	0
11. Quinin hydrochlorid 5.55 per cent	5	.240	+ 0 + + 0	+ to 0
12. Quinin urea hydrochlorid 18.85 per cent	4	.240	+ or less + 0 +	+ to 0
13. Sodium morrhuate	4	.240 .420 .480 .480	+ + + +	+

to 87 per cent, or even down to 5 per cent, and mixed with quinin dihydrochlorid 13.33 per cent, the phenol caused sharp pain distinctly greater than the pain due to quinin dihydrochlorid alone. Salicylic acid 1.14 per cent added to quinin dihydrochlorid caused the same sharp pain.

On the other hand, the simpler quinin solutions either gave a barely sensed pain sensation or else no pain at all. Quinin hydrochlorid 5.55 per cent (saturated solution) and quinin dihydrochlorid 13.33 per cent gave slight or no pain sensation. Quinin urea hydrochlorid 18.85 per cent, a concentration with quinin alkaloid content approximately equal to that of quinin urethan 13.33 per cent was not completely anesthetic. The addition of urethan 6.66 per cent to quinin hydrochlorid 13.33 per cent not only carried the quinin hydrochlorid into solution but rendered it completely anesthetic.

We concluded that solutions of quinin salts are nearly painless, and quinin hydrochlorid with urethan perfectly painless.

EFFICIENCY

Experiment 2 was directed to determination of the comparative efficiency of these solutions as

Table 2.—*Comparative Size of Sloughs Produced in Ear Lobes of Rabbits When .150 Cubic Centimeters of Solution Was Injected Interstitially.*

Solution	Av. Diam. in Decimeters	Number of Injections
Controls (physiological Na-Cl)	000	52
Tincture of iodin	190	5
Morestin's solution	170	2
Phenol 87 per cent	173	9
Sodium morrhuate 5 per cent	91	9
Quinin dihydrochlorid 10 per cent	116	8
Same with salicylic acid ½ per cent	125	6
Same with salicylic acid 1.14 per cent	134	8
Same with phenol 1.14 per cent	135	6
Same with urethan 5 per cent	000	8
Same, three parts with hydrocele fluid one part	111	4
Quinin hydrochlorid 13.33 per cent with urethan 6.66 per cent	113	7
Quinin hydrochlorid 5.5 per cent	128	5
Quinin dihydrochlorid 13.33 per cent	130	7
Same, three parts with hydrocele fluid one part	128*	5
Quinin urea hydrochlorid 5 per cent	000	3
Quinin urea hydrochlorid 10 per cent	100	5
Quinin urea hydrochlorid 18.85 per cent	128	8
Quinin urea hydrochlorid 50 per cent	135	2

*This mixture of quinin dihydrochlorid 13.33 per cent three parts with hydrocele fluid one part, contains quinin dihydrochlorid 10 per cent. It is difficult to understand why this should cause sloughing in areas averaging larger than those by simple quinin dihydrochlorid 10 per cent. This part of the experiment is now being repeated.

destructive agents. Subcutaneously into the ear lobes of rabbits, where the two layers of skin are near each other (avoiding a depilatory) we injected .150 cubic centimeters of each of these solutions. It is conceivable that some solution might have a destructive action on hydrocele endothelium peculiar to itself, but it seemed probable that the *comparative* destructive action would be similar to the comparative destructive action in the hydrocele sac.

The sloughs resulting in the rabbits' ears were measured in decimeters, according to the average diameter. While not capable of fine accuracy, an average of a number of injections gives information which is frequently decisive. The question is not so much whether the test is highly accurate from the standpoint of pure science, but rather whether it is clinically useful.

Table 2 shows that the addition of urethan to quinin dihydrochlorid 10 per cent nullified its efficiency so that no slough occurred at all. When, however, the concentration of quinin dihydrochlorid was raised to 13.33 per cent the urethan no longer could restrain its destructive action, and this solution worked. Quinin dihydrochlorid without any urethan in 13.33 per cent was still more efficient.

The experiments also show that the addition of small amounts of phenol, or of salicylic acid, as recommended by Sharma, to quinin dihydrochlorid, probably increase its efficiency to a slight degree; but the doubt is raised as to whether this slight increase in destructive action is sufficient to compensate for the increased pain caused, as shown in the previous experiment.

The experiments show that the quinin solutions are less efficient than phenol and tincture of iodin; but the question is properly raised, "How destructive a solution do you want to put into a hydrocele sac up against the testis and the pampiniform plexus?" Hematoceles have been reported,[17] following the drastic action of phenol. If quinin solutions are found clinically sufficient to obliterate hydroceles, it seems conservative to avoid the deeply destructive action of phenol. In order to see their comparative action on the endothelial lined cavities, we have injected phenol and again quinin dihydrochlorid 13.33 per cent into the pleural cavity. Phenol 98 per cent cooked the tissue deeply. With quinin solutions, however, the change is so slight that it is difficult to see where the injection was made.

TOXICITY

The relative value of different solutions must depend partly upon their toxicity, and this applies especially to the two chief claimants as injection solutions, phenol and quinin. In order to give phenol the benefit of any doubt, we experimented with it in a concentration of 98 per cent. Phenol is said to be less dangerously toxic in this strong concentration than when it is diluted, because in the high concentration it cauterizes tissues so as to be absorbed slowly. John Murphy many years ago reported three cases of nephrosis following phenol injections for hydrocele and claimed that one patient died from the poisoning, although his claim that the death was caused by the phenol was challenged.[18] Phenol is more toxic in a hydrocele sac than when it enters the gastrointestinal tract, because it is detoxified in the liver, and administration into a hydrocele sac short-circuits the liver.

The real danger in quinin is not in the transitory erythema of the skin occasionally noticed, but in injury to the optic nerve. The smallest dose ever reported as causing such injury is thirty-five grains.[19]

We have not used more than 10 c.c. of quinin dihydrochlorid 13.33 per cent as a single dose, and generally use less. As much as 10 to 12 c.c. of 95 per cent phenol has been recommended by Herbst.[20] The dose of phenol used by most workers is much smaller. Smaller doses, however, are likely to destroy only part of the endothelial lining and make scattered adhesions which loculate the sac, leaving regenerating endothelium between.

In animals it is not practicable to try to make an injection into a hydrocele sac, and we therefore injected solutions into another endothelial-lined sac, the pleural cavity. Part of the experiments which we made, injecting phenol 98 per cent and quinin dihydrochlorid 13.33 per cent into the pleural cavity of rabbits, are summarized in Table 3. It will be seen that under such circum-

Table 3.—*Minimal Lethal Dose in Rabbits. When Injected Intrapleurally.*

Solutions	Amount Injected	Rabbits Survived	Rabbits Died
Quinin dihydrochlorid 13.33 per cent	2.00 c.c.	0	2
	1.75 c.c.		1
	1.50 c.c.	2	1
Phenol 98 per cent	.3	4	2

stances the minimal lethal dose, for a rabbit of slightly more than two kilograms, for phenol 98 per cent is .3 c.c. and for quinin dihydrochlorid 13.33 per cent is 1.5 c.c. This would indicate a toxicity of the phenol about five times as great as the quinin dihydrochlorid solution.

PREVENTION OF INFECTION

In order to prevent infection, it is important that solutions injected should be bactericidal. In an article shortly to be published it will be shown that all or nearly all of the infections and deaths following varicose vein injections have followed the use of solutions which are not bactericidal. Injections with quinin have very rarely been followed by infection. When injection is made into a hydrocele through skin so notoriously difficult to disinfect as the scrotum, and left *in situ,* there is additional reason why preference should be given to a bactericidal solution. In the article just mentioned it will be shown that sodium morrhuate is not bactericidal. Quinin urethan is bactericidal to staphylococcus aureus in a dilution of 1-5, and quinin dihydrochlorid in a solution of 1-5000. For this reason we consider quinin solutions safer for the injection treatment of hydrocele than sodium morrhuate.

COMMUNICATION WITH THE ABDOMINAL CAVITY

We made a study of 231 patients treated by operation at the .... Hospital,[†] and found in this series only two cases of congenital hydrocele, *i. e.,* in which the sac communicated with the abdominal cavity. In both these patients there was an associated hernia. This indicates that in an adult, in the absence of hernia, the danger of putting into a hydrocele a solution which might pass into the peritoneal cavity must be extremely slight if it occurs at all. If there were a passage too fine to be discernible with the naked eye in these 231 cases, it would have been obliterated by the immediate inflammatory swelling of the endothelium produced by the injection solution.

Hydroceles in very young children usually heal spontaneously or after simple tapping. They should not be treated by injection, especially as they may have free communication with the peritoneal cavity.

DISCOVERING OTHER DISEASES

Advocates of operation for hydrocele have claimed that operation allows the discovery of a malignancy of the testicle or of tuberculous epididymitis concealed under the hydrocele. Study reveals that malignancy of the testicle associated with a true hydrocele must be rare. In Campbell's series mentioned below it occurred once in 502 cases. In eighty-seven cases of hydrocele treated by surgery at the .... Hospital[†] there was no case of malignancy. If, on draining a supposed hydrocele before injection, blood-tinged fluid is obtained, injection is not to be considered. We believe that if a rare case of malignancy of the testicle associated with clear hydrocele fluid should occur, palpation of the testicle after draining the hydrocele will reveal an enlarged or nodular mass.

In eighty-seven hydrocele cases treated by operation at the .... Hospital[†] there was only one case of tuberculous epididymitis associated with hydrocele and in this case injection treatment would not have overlooked a tuberculous epididymitis, for the patient had far advanced active pulmonary tuberculosis and a testicular mass as large as a grapefruit. We have traced down exceptional cases of hydrocele associated with tuberculous epididymitis and found in these rare cases that the diagnosis of tuberculous epididymitis was obvious and had been made before the operation. Operation on all hydroceles cannot be said to be a necessity in order to discover tuberculous epididymitis.

CLINICAL PROCEDURE

In our injection technique we have departed from the usual procedure, and partly to this we ascribe our total freedom from the sloughs and abscesses reported previously. We warn against the trochar, for we believe it makes a hole so large that leakage of solution and consequent sloughing may occur.

Following novocain anesthesia we insert a gauge 17 needle, introduced by first tunneling under the skin. The fluid is inspected for blood suggestive of malignancy, and for pus. After expressing thoroughly all hydrocele fluid the testicle is palpated thoroughly for enlargement or lumps suggestive of malignancy, and the epididymis is palpated for nodules. An enlarged hard epididymis on the testicle is not to be confused with nodules in the testicle. Injection is then made through the same needle. Extreme caution is needed lest the end of the needle meanwhile should have slipped out of the sac.

In cases which showed pain with other solutions the pain occurred mostly at the first injection and was frequently absent thereafter. We, therefore, use for the first injection quinin hydrochlorid 13.33 per cent, urethan 6.66 per cent, in 2 c.c. to 4 c.c. doses, because this is anesthetic. In subsequent injections we use quinin dihydrochlorid 13.33 per cent in 3 c.c. to 10 c.c. doses because this is more efficient in obliterating the hydrocele.

Fluid almost always reaccumulates after the first injection. The second injection treatment is usually given one week later and if fluid again reaccumulates, and is not spontaneously reabsorbed in three weeks, further injections are given at intervals of three weeks.

The number of injections has varied. Often one injection has sufficed. One patient required five injections, but was then healed and a follow-up for nearly a year shows no recurrence. The average number of injections has been between two and three.

[†] Editor's Note.—The names of hospitals were omitted in the paper as presented in the prize contest. The work was done in the Los Angeles County General Hospital and in the Hollywood Hospital, and those institutions are meant in each such reference.

COMPARATIVE RESULTS BY OPERATION AND INJECTION

Those who have studied in detail the history charts of hydrocele operation cases know that a true picture is painted when reports include accounts of postoperative infection, postoperative bleeding, postoperative pain and disability, and the percentage of recurrence in those cases adequately followed. These shall be discussed separately.

Infection after hydrocele operations is sometimes unavoidable. The scrotum is bacteriologically so dirty that its preoperative disinfection is practically impossible. The scrotal skin is so delicate that powerful germicides cause dermatitis and exfoliation. Keyes has said: "Get it as clean as possible; then handle it as the dirtiest thing in the world." Campbell [22] found that postoperative wound infection was recorded on the charts at Bellevue in seventy-six cases out of 502, and remarks: "It probably occurred oftener."

Hemorrhage after hydrocele operation cannot always be avoided. Campbell, after an experience of several hundred operations, says: "Hemorrhage may occur even when hemostasis is apparently complete." Mooro [24] states: "A hematoma almost invariably follows where the tunica has been thick and vascular." Postoperative hemorrhage in the series reported by Campbell occurred in eighteen patients. In two-thirds of these or in twelve patients abcesses resulted, such that eight patients had a secondary operation of orchidectomy.

Death following operation occurred twice in Campbell's series, once in Alam's [23] series.

The number of postoperative hospital days in Campbell's series averaged 9.3 days, and in Alam's series well over ten days.

I know of several cases of continued pain at the operative site disabling patients for three months after operation.

In Alam's series there was recurrence in four out of thirty-three cases followed, or 12 per cent of those followed. In Campbell's series there was serious recurrence in two out of thirty-three cases followed, or 6 per cent, and smaller recurrences in four more, making a total of 18 per cent of those followed.

RESULTS BY INJECTION OF QUININ SOLUTIONS

We submit for comparison a preliminary report on thirty-five hydroceles. In three, there was a very remote possibility of malignancy or tuberculous epididymitis and for them operation was advised. Thirty-two hydroceles were treated by injection with quinin solutions. Four of these patients left the city before we were satisfied that the treatment was complete. Eight are now under treatment. Twenty hydroceles in nineteen patients are now apparently cured. The apparent cure in these hydroceles cannot be taken as final until they have been followed for several years. A number have now been followed for almost a year without any sign of recurrence.

Two patients had pain following injection and to these two patients morphin was given. Although they were kept in the hospital over night, they said that after the effect of the hypodermic wore off, they had no more pain. No patient had serious pain following the use of quinin urethan solution, and we expect in the future, now that we have learned to use this permanently anesthetic solution at the first injection, that in no case will pain follow treatment.

There was no case in which infection followed. There was no case with violent tissue reaction following. There was no case with hemorrhage following. There was no case with any accident of any kind.

The treatment has avoided hospitalization. It has avoided confinement to bed. It has avoided surgical complications. We do not know of any patient having been kept from work by the treatment.

2007 Wilshire Boulevard.

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PREOPERATIVE PREPARATION OF THE SURGICALLY HANDICAPPED PATIENT*

REPORT OF CASES

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In our efforts to minimize the hazards of surgery, everything possible should be done to establish in the patient the highest degree of physiologic balance through a proper preoperative treatment. The operation itself forms but one link in the chain of desired results. The most skillful operative technique can be embarrassed by unexpected complications. Fatal results not infrequently follow inadequate preoperative preparation.

Most patients undergo surgery satisfactorily. The routine examination may reveal no other pathology than that for which the surgery is to be done. However, we have a large group of patients who are physically so handicapped as to require a most painstaking examination and special preoperative preparation, which should be done in association with a competent internist. It is impossible in a short paper to cover all surgical problems, but I shall discuss several which have been of greatest interest to me.

SHOCK

The clinical factor of psychical shock is well recognized. That patient is a poor surgical risk who is apprehensive, markedly worried, and has spent sleepless nights. A high reflex irritability may induce a ventricular fibrillation in the early stage of anesthesia, causing instant death. It is well known that anesthesia deaths usually occur during or soon after the excitement period of inhalation anesthesia. Consequently, all possible precautions should be taken to protect the nervous system. An overstimulated or exhausted sympathetic nervous system may create many postoperative complications, such as tympanitis, ileus, or gastric dilatation.

It would be ideal to have the patient sleep continuously from the night before the operation until several hours after leaving the operating room. This we have accomplished with some degree of success by giving orally sodium amytal, grains three or four, at nine p.m., followed by sodium amytal, grains four, two hours before the operation. If the drug has not produced the required effect, we do not hesitate to give a small amount of sodium amytal intravenously. By this method the patient is put to sleep in her bed, consequently does not see the operating room and has no fear of the anesthetic. The four or five hours of sleep following the operation minimize the usual postoperative distress, such as nausea and vomiting. However, the use of sodium amytal is not devoid of danger. It should not be used on patients having heart disease, nor those with very high blood pressure, nor the weak and aged. We hope that there will eventually be discovered an efficient substitute for amytal which may be used on all types of patients without any danger.

DIAGNOSIS

Diagnosis is, of course, in every case the foundation of treatment and prognosis. All symptoms must be carefully accounted for. It often happens that a foreign complication ensues postoperatively, not traceable to the operation itself, but to a coexistent disease, such as unrecognized goiter which has produced a severe postoperative reaction. Much can be accomplished in a complicating thyroid crisis when such a reaction is recognized early. But death may ensue in spite of all treatment if the attack is of sufficient intensity. I recall an exacerbation of a latent tertian malaria as the cause of high fever following a pelvic operation, in which instance quinin therapy allayed our fears of infection.

Occasionally we have a patient with a toxic goiter and another surgical disease. The question arises as to which condition should be treated first. It is generally conceded that thyroidectomy has the operative precedence, unless the other lesion is endangering the patient's life, as, for instance, severe bleeding from a fibroid, in which case the hysterectomy should have primary attention. However, this patient should be prepared as for a thyroidectomy; that is, by rest in bed, Lugol's solution and sedatives, so as to forestall any postoperative thyroid complication.

GOITER

Goiter, uncomplicated by any other disease, in many cases presents a very serious problem. It might not be amiss to recapitulate some of the more important symptoms and signs of this disease which indicates a serious surgical risk.

1. Marked loss of weight over a short period of time.
2. Excessive instability of the nervous system.
3. Severe exophthalmos (in a small percentage of patients).
4. Dehydration and impending acidosis.
5. Large, hard thyroid gland.
6. Myocardial changes.
7. Hyperthyroidism not controllable by iodine therapy.
8. A long period of iodine treatment.
9. Recent recovery from a thyroid crisis.
10. Hyperthyroidism in young children.

This group of goiter patients requires long preoperative preparation with constant study and observation by both the internist and the surgeon, as they together can best determine when the patient is prepared for surgery. Thyroid surgery is never an emergency and the surgeon is not warranted in jeopardizing the life of the patient who is not prepared for the operation. The patient who does not survive an operation for goiter is a victim of too much surgery, regardless of surgical skill. Therefore, if the surgeon doubts the patient's ability to stand a subtotal thyroidectomy, only a lobectomy should be done. If doubtful about a lobectomy, a ligation of one pole only should be done.

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* Chairman's address, General Surgery Section of the California Medical Association, at the sixty-first annual session, Pasadena, May 2-5, 1932.

HEART

In considering whether surgery is indicated on a patient with a known heart disease, the decision rests entirely on whether the operation is elective or an emergency. In this situation, the internist's advice and counsel are of paramount importance. In those patients requiring emergency surgery, the heart pathology should have less consideration if it is thought that surgery offers a means of saving the patient's life. Every precaution should be taken to reduce the load which the heart must carry. The following measures should be employed:

1. *Anesthesia.*—One-half to one per cent novocain is probably the safest anesthetic to use. However, not all operations can be performed under local anesthesia. As much of the operative work as possible should be done with local and the operation completed under inhalation anesthesia.

There is considerable controversy as to whether nitrous oxide or ether is the safest inhalation anesthetic to use. The safest one is the one which does not rob the patient of too much oxygen as a state of anoxemia should not be produced.

In the hands of a very competent anesthetist, no doubt nitrous oxide can be used with safety, but in the average anesthetist's hands ether given by the open method is the safer anesthetic.

Spinal anesthesia is contra-indicated because of the possible lowering of the blood pressure, thereby reducing the blood supply to the coronary vessels.

2. *Fluids.*—Fluids should be given subcutaneously or by proctoclysis, and should not be given intravenously unless an emergency should present itself. If intravenous glucose or a blood transfusion should become necessary, they should be given in very small amounts and very slowly, so as to prevent the rapid increase of the blood volume.

REPORT OF CASE

The following case illustrates the risk one may take in an emergency:

The patient was a male, age seventy-eight, entered the hospital suffering from a twenty-four hour strangulation of a right indirect inguinal hernia. The blood pressure was 170/70, and the pulse count was 140 per minute. The patient had vomited many times. The abdomen was greatly distended. This patient had previously been under treatment for coronary disease. Accordingly, novocain, one-half of one per cent, was used as infiltration anesthesia. Postoperatively, fluids were given subcutaneously and rectally, none given intravenously. The convalescence was quite stormy but the patient recovered. Before leaving the hospital he insisted on having his other inguinal hernia repaired, fearing it would become strangulated. This operation was refused because the danger resulting from strangulation was, in his case, not as grave as that of an elective herniotomy.

Elective surgery allows sufficient time to have the heart carefully studied and the cardiac reserve estimated. Valvular disease alone, if the heart is compensated, is usually not a contra-indication to surgery. I doubt that elective surgery is ever justifiable in marked coronary disease. The question is not what the heart can endure, but how much the patient will benefit by the operation. For example, one may assume considerable risk in operating upon a goiterous patient with heart damage, for the improvement following surgery usually outweighs the risk taken. But in such operations as herniotomies and pelvic repair, the improvement is not sufficient to warrant the risk.

OBSTRUCTIVE JAUNDICE

In patients with obstructive jaundice the results of preliminary study and preoperative preparation have been found to justify the required delay of operation. Besides obtaining the usual laboratory and chemical analysis, the icterus index of the blood should be determined in all cases. It has been definitely demonstrated that no operative work should be attempted while the icterus index is either increasing or decreasing. Operative procedures should be delayed until a level has been reached.

The coagulation time in jaundiced patients is frequently above normal. Walters[1] reports that in seventy per cent of all cases in which death was caused by postoperative hemorrhage, the preoperative coagulation time was more than nine minutes. Calcium chloride (five cubic centimeters of a ten per cent solution) given intravenously on three successive days usually affords a safe and effective means of lowering the blood coagulation time to within normal limits. In those cases where the desired effect is not obtained, one or more blood transfusions should be given, both before and after the operation.

Patients with jaundice should receive a diet rich in carbohydrates, augmented when necessary by glucose given intravenously, to restore the disordered function of the liver. Dehydration, if present, should be overcome by ingestion of large quantities of fluids for several days before the operation. Jaundiced patients have a tendency to bleed freely during and after the operation in spite of a normal coagulation time. During the operation hemostatis should be carefully obtained and trauma to tissues should be minimized especially to the liver. Therefore, cholecystectomy should not be done at the primary operation.

ACUTE INTESTINAL OBSTRUCTION

Acute intestinal obstruction is always a surgical emergency. The mortality varies according to the site of obstruction, and the elapsed time between the onset of the symptoms and the operation. The chemical changes in the blood assume importance in direct proportion to the site of obstruction and the delay in surgical treatment.

In the early case, before the patient is toxic, surgery may be done immediately and the obstruction relieved with comparative safety. If, however, the patient is seen late, when toxic and dehydrated, with marked changes in the chemistry of the blood, preoperative treatment is absolutely necessary. The quickest method of restoring the blood chlorides is by an infusion of hypertonic salt solution, but it must be remembered that hypertonic salt solution frequently stimulates peristalsis and in a late case of obstruction may do some damage. A safe procedure is an intravenous injection of a one per cent salt solution to which has been added one hundred grams of glucose. The salt solution may be repeated in two hours. In addition, 2000 cubic centimeters of normal salt solution should be given subcutaneously. Gastric lavage should be done before the operation and as often as necessary postoperatively in order to remove the toxic material from the stomach and upper bowl.

Inhalation anesthesia should not be used, because of the danger of the patient vomiting during the operation, resulting in an aspiration pneumonia. We have found that spinal anesthesia has been very satisfactory.

CARCINOMA OF THE STOMACH

Patients with carcinoma of the stomach are usually poor surgical risks, because of weakness, anemia and dehydration. Much can be done to improve their general condition before surgery.

1. The chemistry of the blood should be determined.
2. The stomach should be washed with normal salt solution twice daily for a week.
3. One thousand cubic centimeters of normal salt solution, with 100 grams of glucose, should be given intravenously for several days. Fluids should also be given subcutaneously. A large amount of fluid is necessary to restore the fluid balance.
4. For the anemia, one or more blood transfusions should be given before the operation.
5. Intravenous salt solution with ten per cent glucose may be given during the operation.

The above management is also applicable to patients with pyloric obstruction due to an ulcer. In this condition, alkalosis should be suspected if much vomiting has occurred, also if the patient has been taking alkalies for a long period of time. This may be illustrated by the following case:

REPORT OF CASE

The patient was a male, age forty, with a history of duodenal ulcer for the past twenty years. He had taken alkalies at various intervals during this period. For eight days before entering the hospital he had vomited all food eaten. On entering the hospital the patient was extremely nervous, mentally confused, vomiting, flushed face, with muscular contractions of both arms. His pulse count was eighty, with blood pressure of 90/87. Blood count was as follows:

Hemoglobin	82 per cent
Red blood cells	4,580,000
Leucocytes	16,800
Polys	50 per cent
Lymphocytes	38 per cent

Chemistry of the blood:

Non-proteid nitrogen	85 mg. per 100 cc. of blood
Creatinin	3 mg. per 100 cc. of blood
Sodium chlorides	258 mg. per 100 cc. of blood
Carbon dioxid combining power	111 per cent
Blood calcium	9.8

The patient was given 500 cubic centimeters of three per cent salt solution intravenously, daily for seven days. He was also given ammonium chloride, grains fifteen capsules t. i. d. The blood chemistry gradually improved until nine days later it read as follows:

Carbon dioxid combining power	41 per cent
Non-proteid nitrogen	30 mg. per 100 cc. of blood
Sodium chlorides	410 mg. per 100 cc. of blood

Gastric analysis eight days later was as follows:

Free hydrochloric	40 per cent
Total acidity	76

The usual changes in the chemistry of the blood in alkalosis are an increase of the blood urea nitrogen, an increase of the carbon dioxide combining power, with a corresponding decrease in the chlorides. The treatment consists of:

1. Discontinuing all alkalies.
2. Intravenous injections of hypertonic salt solution with glucose.
3. Oral administration of ammonium chloride until the chemistry of the blood becomes normal.

In closing one can do no better than to quote Lord Berkeley Moynihan, who says:

> "In the future we must look for advance in surgery not so much to improve methods of technic as to a wiser application of a technic now almost perfected. It is therefore our task to improve surgical judgment and to that end a long survey of past experience is essential, and it is most necessary for us to devote a greater measure of attention to the preparation and after care of the patient. It has been said that surgery has been made safe for the patient; we must now make the patient safe for surgery."

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MEDICAL COSTS — HOW HEALTH INSURANCE AND GROUP MEDICINE MAY LOWER MEDICAL COSTS*

By Philip King Brown, M. D.
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THE trend of health insurance and group medicine as the major means of reducing the costs of medical care to the great wage-earning class needs reviewing at this time of the country's most serious depression, in order that we may understand just what is happening and ask ourselves as one of the two parties concerned whether we wish matters to go on any further without protest and organized effort on our part to direct the movement into a safer and more effective channel.

HOW INDUSTRY RECOGNIZED ITS HEALTH RESPONSIBILITIES

Industry recognized long ago the need for the stabilizing and protecting effect of medical support, and legislation made secure the responsibility of all industry to its cripples from accident or disease attributable to the work. In our efforts to distribute more equably the fruits of things made possible by the advances of science, there are certain needs of mankind that because of their cost have not been available to the masses. It is a matter of note that, in proportion to its standing in intelligence, a community attempts to distribute all of its assets as evenly as possible. Health matters are our most democratic assets and in nothing else are the very poor as well safeguarded as in matters of health. Just how far up the scale this should go is a question now before us. In the meantime the need of the masses for what the rich can pay for and the poor receive for nothing is so acute that it receives in the magazines of the day more attention than the tariff, and divides with cancellation of war debts and prohibition the chief honors in public attention. While we have spent five years in accumulating knowledge in the hands of a national committee of fifty-five appointed by the Secretary of the Interior to study the costs of medical care, sufficient facts were available in the beginning on which to base trials of several efforts at furnishing this care at a price that the small wage-earner could pay.

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* Presented at Section on Medical Problems and Economics, San Francisco County Medical Society, April, 1932; Southern Pacific Hospital Medical Society, April, 1932; Palo Alto Medical Society, May 23, 1932.

HEALTH PROBLEM OF THE SMALL WAGE-EARNER

The country at large must furnish thousands of such efforts, but those operative in our midst cover the main types and offer an opportunity of analysis that should make clear the lines along which enlarged plans should develop.

It is contended that industrial medicine is an essential part of the stability of modern industrial life and that it should be as universal as it is possible to make it among all members of society engaged in gainful occupation and not receiving over a certain basic rate; that a certain allowance above this rate be made for each dependent in the family; and that, in consequence of this regulation of the State, every wage-earner receiving under this maximum wage scale must be automatically insured against the cost of sickness.

It is further contended that sickness and disability insurance be entirely separate; that the full cost of the insurance be borne by the individual worker except that the State contribute some part of those accessory means of diagnosis in the form of laboratory investigation, which it does now in its preventive, humane and protectional work in chronic and communicable diseases.

LAY ADMINISTRATION

Finally it is the object of this study to make quite clear that lay domination in the administration of this effort is beset with incompetence, injustice to doctor and patient, graft, and a grave danger of weakening the whole system to the point of rendering it dangerously inadequate. It is recognized that the medical profession can correct the abuses of the present systems if the responsibility be put on it, that administrative and business ability can be hired far more easily and safely by organized medicine than can medical ability be hired by business whose danger is in the constant conflict between standards and dividends.

Sacra infama auri, quid non mortalia pectora cogis? The pathway of insurance is marked by this infamous love of gold, ended finally by universal legislation standardizing and regulating all forms of life and fire insurance, but as yet giving insufficient attention to the problem of health. In consequence, we find in our midst a mixture of extremely well-intended and honest efforts to render medical care to people of small means at small cost, and on the other hand, efforts mostly by laymen to collect for such services and render so little in return that they are dangerous in the extreme; and it is quite doubtful whether some of them were conceived with any honesty of purpose. Between these extremes are groups showing various weaknesses of these efforts, generally due to the low level of medical care employed, poor and insecure hospital connections, political influences at work in assaulting standards, inadequate returns to doctors, and absent supervision of their work.

INADEQUACY OF COMMERCIALIZED HEALTH INSURANCE

Commercialized health insurance does not cover the health needs of the community, as exemplified by the following exemptions taken from sample policies.

Mental afflictions.

Insanity.

Venereal diseases or complications resulting therefrom.

Diseases not common to both sexes.

No hospitalization for epilepsy, paralysis, contagious diseases, attempted suicide, alcoholism, abortion, drug addiction, prostatic disease, dental surgery.

No hospitalization till ninety days after policy written.

No hospitalization for surgery till six months after policy written and not for conditions existing before policy written.

Dental examination, advice and "arrangement" about fees.

Childbirth, if both parents members for two years, and labor is normal.

Limits of hospitalization for any one illness or accident vary from three months to one year.

Hospitalization must be *authorized by the company.*

No coverage for injury in fight or brawl.

No coverage for wound self inflicted.

No coverage for injury caused by war (Associated Indemnity Company).

No coverage for injury in race or speed contest.

No benefits for diseases for which federal, state, county or municipal authorities have directed isolation in a federal, state, county or municipal institution.

No surgery for tonsils unless and until policy in force twelve months.

No hospital service for members over sixty-five years old (Mount Moriah).

No hospital service for first year if following conditions manifest themselves within the year: fibroid tumors, cancer, gall-bladder disease, stomach and bowel ulcer, tonsils and adenoids, mastoid (chronic), appendicitis (chronic or recurrent), kidney stone, arthritis, chronic bone and joint disorders. Exceptions to care of these conditions is put on membership certificate (see Mount Moriah sheet).

No chiropodist service, no beauty doctors, no shaving lotions furnished.

SOME CALIFORNIA INSURANCE ORGANIZATIONS

The following are groups of organizations in operation here during the last five years:

I. *Commercial health-insurance concerns organized and operated for profit, hiring doctors to* *practice for them, some of them using well-known names and reputable hospitals in their advertising matter and propaganda.* Most of these organizations * have sprung up within five years, in San Francisco and environs, but two of them have been in existence over seventy-five years. Among such the writer would include the following:

Acme Health and Accident Service, 216 Phelan Building.
Associated Health Service, 733 Phelan Building.
Blue Cross Health Service.[3, 4]
California Hospital Company Health Association, 3 City Hall Avenue.
Columbia Casualty Company, 315 Montgomery Street.
Federated Health and Hospital Association, 1095 Market Street.[4]
French General Benevolent Society, Geary and Fifth Avenue.[1]
German Benevolent Society, Fourteenth and Noe Street.[1]
Grace Darling Hospital Association, Associated Health Service, Phelan Building.
Kaufman Medical Service, Ltd., 803 Phelan Building.
Liberty Hospital Association, 733 Phelan Building.[2]
Lincoln Health Service.[4]
Lincoln Medical Service, Associated Health Service.
Mount Moriah Hospital, 490 Post Street.
National Health and Accident Association, Phelan Building, Associated Health Service.[3]
National Health and Life Extension League, Phelan Building, Associated Health Service.
National Hospital Association Phelan Building, Associated Health Service.[2]
North American Health Service, Phelan Building, Associated Health Service.
North American Hospital Association, Inc.[3]
Pacific Health Corporation, 300 Phelan Building.
People's Health Service.[4]
People's Medical Service.[3, 4]
Standard Medical Service, Golden Gate Building, recently organized.[4]
United Medical Service, Phelan Building, Associated Health Service.[3]
United Service Hospital Corporation, 332 Pine Street, recently organized.[4]
Western Medical Service Company, 821 Pacific Building.[4]
Beneficial Service Corporation, San Diego.
Metropolitan Health Service, San Diego.

Los Angeles presents about as many of these companies as San Francisco, some of them local representation of state-wide organizations. The ——— Clinics, private organizations of doctors, are the best of these and apportion to doctors the fairest division of income. In addition to these there are clinics organized by doctors who employ full-time assistants on salary to do the major part of the work. They assume liability for overhead and maintenance of salary, but collect either all the balance or, as in one clinic in Honolulu, the organizer pays himself a salary several times greater than that paid any of the clinic members. If profit over and above expenses be collected, a bonus dividend is paid in proportion to salary.

II. *Organizations operating clinics and hospital service at advertised reduced rates on cash basis, no membership. Percentage deductions for overhead, some of them organized and operated by doctors.* Here the writer would include:

American Medical Finance Corporation.
Pacific Medical Finance Corporation, Ltd., 508 Sixteenth Street, Oakland.
Medical Foundation of America, Ltd., 319 Grant Avenue, San Francisco.
Medical Foundation, reorganized, 391 Sutter Street, San Francisco.
Sutter Hospital, Sutter near Larkin, San Francisco.
St. Luke's Hospital Diagnostic Clinic.
Lane Hospital Diagnostic Clinic.

III. *Insurance companies* selling an accident and health policy paying any part of accident up to $1250, or sickness expense up to $1000. As an example of this type, I would cite:

Associated Indemnity Corporation, 332 Pine Street.

IV. *Insurance* Companies selling policies giving certain terms for types of operations. Here I would mention:

Travelers' Insurance Company.
Metropolitan Life Insurance Company, and others.

V. *Eleemosynary organizations* to assist in financing costs of medical care:

General Welfare Corporation.

VI. *Commercial organizations* for same purpose:

Medico-Dental Finance Corporation, 450 Sutter Street.
General Acceptance Corporation, 120 Sansome Street.

Charge 10 per cent reserve of 20 per cent more of balance; doctors pay back to company on joint note if patient does not.

VII. *Industrial Insurance* systems are not listed because all of them are eleemosynary. They are open to the constructive criticism that:

(a) They need standardization.
(b) They are organized for the most part by laymen.
(c) Some of them pay inadequately for services of doctors.
(d) Families are rarely included in the benefits.
(e) Some of them exclude treatment or consideration of too many diseases.
(f) There is too much lay management in some, and it is not always wise or just.

Most insurance business is run on the basis of 55 per cent charged to losses, and 45 per cent to cost of advertising, acquiring new business and administration. Out of this must be squeezed profit. It is easy to figure how it is done.

The commercially organized health insurance companies, where figures are available, plan on some such distribution as this:

	Per Cent	Per Cent
Promotion	28	
Administration	17	45
Doctors	41	
Hospitals, nurses, and drugs	14	55
Total		100

It has been shown in several large surveys that 85 per cent of the small wage-earners do not consult members of the regular profession for illnesses. One hundred and twenty-five million dollars a year is paid by this group for patent medicines and the services of the pseudo-scientists, various cults, and quacks.

Abstract number 14 of "Committee on Costs of Medical Care" states that "the annual bill for medicines in the United States is $715,000,000, almost as much as is annually spent for physicians or hospitals.

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* The interpretation of the numerals used is as follows:
1 Profits used for benevolent purposes.
2 License suspended.
3 Not on record in California Secretary of State's office.
4 Not in March, 1932, telephone book.

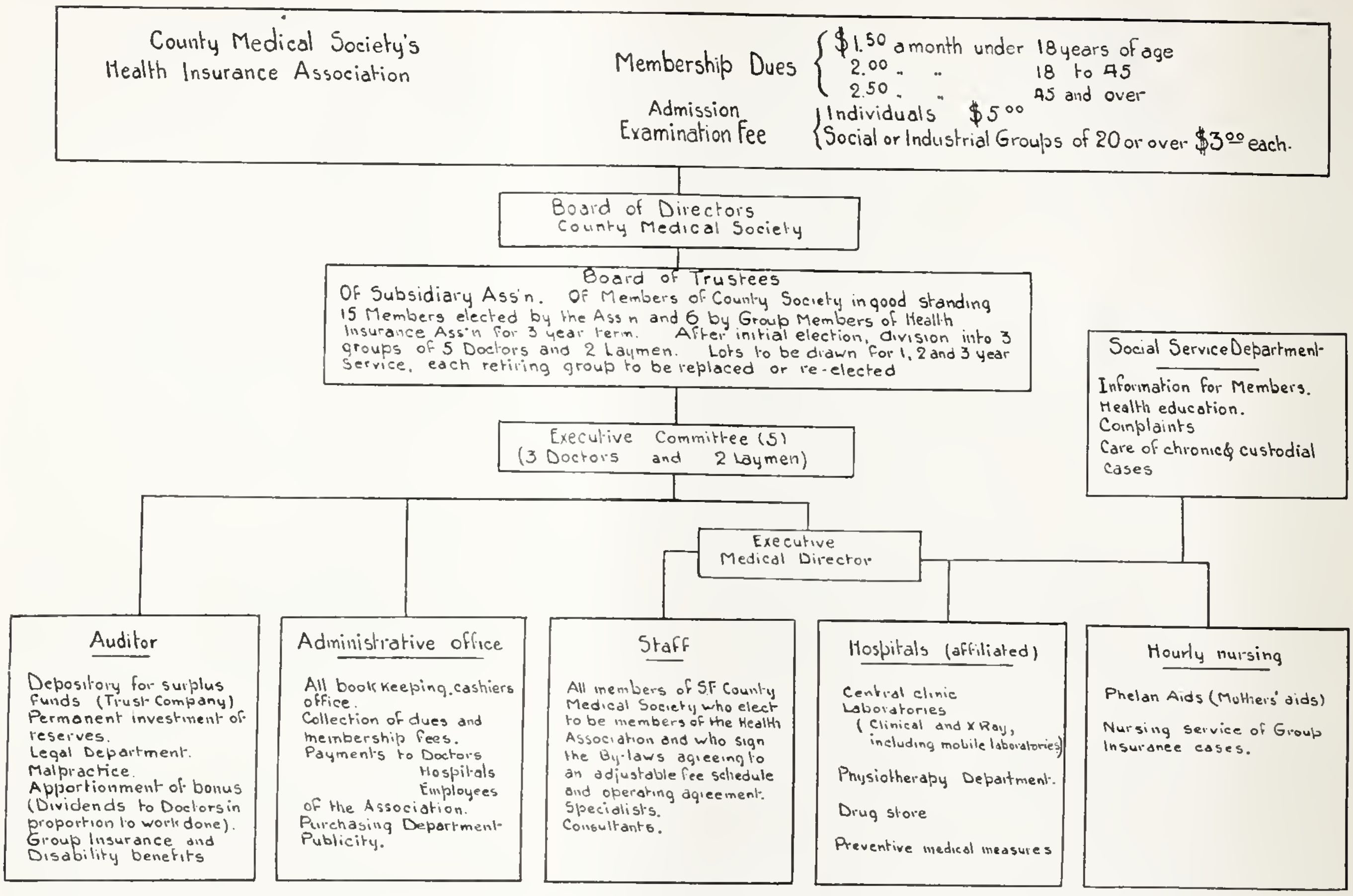
County Medical Society's
Health Insurance Association
Membership Dues
$1.50 a month under 18 years of age
2.00 " " 18 to 45
2.50 " " 45 and over
Admission
Examination Fee
Individuals $5.00
Social or Industrial Groups of 20 or over $3.00 each.
Board of Directors
County Medical Society
Board of Trustees
Of Subsidiary Ass'n. Of Members of County Society in good standing
15 Members elected by the Ass'n and 6 by Group Members of Health Insurance Ass'n for 3 year term. After initial election, division into 3 groups of 5 Doctors and 2 Laymen. Lots to be drawn for 1, 2 and 3 year Service, each retiring group to be replaced or re-elected
Social Service Department
Information for Members.
Health education.
Complaints
Care of chronic & custodial cases
Executive Committee (5)
(3 Doctors and 2 Laymen)
Executive
Medical Director
Auditor
Depository for surplus funds (Trust Company)
Permanent investment of reserves.
Legal Department.
Malpractice.
Apportionment of bonus (Dividends to Doctors in proportion to work done).
Group Insurance and Disability benefits
Administrative office
All bookkeeping, cashiers office.
Collection of dues and membership fees.
Payments to Doctors
Hospitals
Employees
of the Association.
Purchasing Department
Publicity.
Staff
All members of S.F. County Medical Society who elect to be members of the Health Association and who sign the By-laws agreeing to an adjustable fee schedule and operating agreement.
Specialists.
Consultants.
Hospitals (affiliated)
Central clinic
Laboratories
(Clinical and X Ray, including mobile laboratories)
Physiotherapy Department.
Drug store
Preventive medical measures
Hourly nursing
Phelan Aids (Mothers' aids)
Nursing service of Group Insurance cases.

Chart 1.—To outline how a county medical society could underwrite the medical and surgical care of the smaller wage earners of its county.

Of this sum only 27 per cent or $190,000,000 represents the amount spent for prescriptions or purchases as the direct advice of medical practitioners. Thus, the remaining $525,000,000 spent upon patent medicines, and $125,000,000 spent on quacks, and Christian Science, is one of the losses to the medical profession which our apathy has brought about."

COMMENT

Are we satisfied to allow this to go on, or to abandon this great group to the exploitation of the numerous organizations represented chiefly in group I, above listed? It may not be that any of them are really bad, but, in the writer's opinion, the majority are poor and not dependable, if he can trust the newspaper accounts of their shortcomings. He believes that most of them are unworthy of being considered representative of the best standards of medicine; and the best of them need the constructive criticism and support of the organized profession.

Such criticism would have to be of a somewhat different type from that made by Dr. R. G. Leland of Chicago, Illinois, in an article presented at the Congress on Medical Education, "Medical Licensure and Hospitals," February 16, 1932, and printed in *The Journal of the American Medical Association,* March 3, 1932, reprinted in California and Western Medicine, April 1932, page 234. Doctor Leland's thorough review of the situation is unquestionably sound and he agrees that "contract practice took its origin largely from necessity, and has been legalized in certain places by state statute. Under certain conditions and in some forms it is both ethical and legitimate. In general, it has become highly commercialized and competitive." He goes on and lists eleven further criticisms which are aimed at the unsound economic basis of most of those organizations. His article, page 236, California and Western Medicine refers to the fact that "One or more county medical societies have devised plans to take contracts as organized bodies, modified by the desire to furnish to the low income group medical service at small cost." He publishes a type of the contract used by one of them, and refers to the fact that only 50 per cent of the membership of the medical society agreed to this plan. It is this type of organization that seems to offer the best opportunity for the medical profession itself to handle the problem, and it is an enlargement upon the plan that would offer to this society the basis for considering the work.

It will be seen from comments on the standing of lay organizations that have entered the field, and the losses in which they have been involved which suggest fraud and evasion of the law, that the responsibility of protecting the great mass of people against this sort of fraud rests with us. When insurance companies of vast wealth enter the field, as they have, with distinct health insurance programs, and are able to bid for the services of the leading members of the profession, who will in all probability farm out the work and accept the generous salaries offered, it is time the profession asked the question whether they will stand for that type of exploitation.

PROBLEM NEEDS EARLY SOLUTION

It seems to be a problem that must be solved now by our efforts or it will end in industry and the State taking it over, with all the abuses and low standards that have followed in the wake of industrial compensation insurance, because we fought it instead of molding and modifying it. Its weakness today, largely due to lay management, is our own fault. The necessity for all the lawsuits and the fearful drain on industry of misplaced lay interpretation can never be overcome by courts of law. The facts are frequently well known to the profession as a whole, and should be laid down by our own experts and not by none too scrupulous doctors hired by none too scrupulous lawyers. We can discipline our own members if we do not approve of their standards, and prevent their continuing in this work if we decide to have the guiding hand in it. We are not even a strong moral influence under present conditions.

A PLAN OF ORGANIZATION FOR A COUNTY MEDICAL SOCIETY

The scheme of organization by which every county medical society could underwrite the medical and surgical care of the smaller wage-earners in their counties is shown in Chart 1.

It is not in the least necessary for the entire membership of county societies to enter into health insurance practice. The service can be most easily rendered by an organization of those who wish to do health insurance work within the county society and responsible to its board of directors. The discipline of any doctors who abuse the work in any way is exceedingly simple, because being dropped from this subsidiary organization will automatically cut them out from any further work.

By a "sliding scale of fees" it is intended to convey the idea that remuneration to physicians should be upon a unit basis, an office visit constituting one unit. An office examination could be rated at two or more units. Certain laboratory work at a fraction of a unit. Night calls and consultations at certain multiples of units, and so on with each medical and surgical procedure which constitutes more than the ordinary office visit. The returns from membership dues can be used for a very simple overhead and the support of laboratories, provided all of that work be not done by health centers supported by the city or state, as their contribution to the cause. What remains after setting aside a percentage for reserves could be divided by the total number of units for services rendered, and payment made. The bills of the physicians who were doing this work would have to be rendered to the executives; and to safeguard everyone concerned, should be accompanied by a brief statement of the case with laboratory check and consultation in the case of unusual or prolonged services. Since the value of the unit is dependent upon there being no padded accounts, it would be in the interests of the subsidiary society or health association to safeguard and control the standard of work rendered by members.

Nursing service is rendered by certain large life insurance companies in connection with the carrying of policies of various sorts in the company. It is conceivable that a somewhat larger premium will have to be asked for than is contemplated, but it can be arranged for through the carrying of some group insurance with one of these companies. Dental service will have to be provided in the form of extractions and prophylaxis. Where more than this is needed it will have to be paid for by the individuals who receive such extra services.

There need be no great overhead and no large salaries. If choice of physician be granted, limited to districts, provision for laboratory examinations, consultations and hospital care when needed, the malpractice suits will be very few and of little import. Separating disability benefit from health insurance will eliminate the incentive to graft to a large degree. Consultation will prevent this also, and will have a salutary effect on malingering. Finally we shall find that the great group who depend on patent medicines, advertising fakers, Christian Scientists, pseudoscientists, and who expend for this therapy over $600,000,000 a year, according to the Committee on Cost of Medical Care, will be drawn into the fold to a greater and greater extent. Health insurance organizations in industry need not be disturbed in any way, *provided* they render for the same price the standard of care set by the county society group.

909 Hyde Street.

REGIONAL ANESTHESIA—ITS MODERN TECHNIQUE AND THERAPEUTIC APPLICATION

II*

REPORT OF CASES

By M. B. Greene, M. D.
Brooklyn, New York

Discussion *by Claude E. Piersall, M. D., Reno.*

In order to overcome these technical obstacles and to facilitate and simplify the block anesthesia, my x-ray localization method was developed.† We all know that as surgeons we do not question the length of time required for properly preparing the patient for operation or anesthesia. But all operators demand, after such preparations have been made, that the anesthesia be induced without delay, with as little shock and trauma as possible, and without undue trial of patience of the person to be operated upon.

LOCALIZATION WITH X-RAY, BY AUTHOR'S METHOD

This x-ray localization method is based upon a mathematical principle (formula). If a triangle or a pyramid is in fixed and constant relation to a given point, and this relation is maintained, the relation of other points within the planes of said triangle or pyramid will be constant.

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*Part I of this paper was printed in the June issue of California and Western Medicine (Page 389).

†The method pertaining to the definition of the depth of various bony landmarks was reported fully at the annual meeting of the International Anesthesia Research Society held in the city of New York, October 16, 1931, and will appear in the official organ of that association.

The procedure is as follows:

1. Taking x-ray pictures of the patient to be blocked. (See Fig. 1.)
2. Processing of x-ray print made from such plate, as well as lantern slides. (See Fig. 2.)
3. Reprojecting such slide upon the patient's body in such a way that the size and anatomical relation are observed. (See Fig. 3.)
4. Blocking the corresponding nerves, following the introduction of the blocking needle, for the location of deep landmarks at the points defined on the surface of the skin by projection.

The entire procedure requires not more than three hours of time for preparation. In case of emergency, this can be lessened to half. The actual cost to the patient is very nominal, x-ray excluded, and the cost of the material is nominal too.

PROCEDURE IN A SPECIFIC CASE

The procedure is described as follows:

After careful examination and diagnosis, the question of what nerves are to be blocked is determined. For example: We desire to block the first, second and third lumbar nerves on one side for therapeutic purposes. Three opaque markers are placed with adhesive on the patient's back in the dorsal and lumbar region. The x-ray plates are taken with such technique that the desired bony landmarks are shown clearly. In this case, the transverse processes of the first, second, third lumbar and the twelth dorsal vertebrae.

Attention should be directed to place the x-ray tube in such a position that there will be no undue distortion of the skeletal structure. The preparation of the x-ray being completed, and additional diagnostic data having been obtained from its reading, a photographic print is made from it upon a glossy paper. A lettering steel pen and India ink is used for outlining the contours of the vertebrae, transverse processes, ribs and foramina, as the case may be, by tracing them upon the photographic print. This dries almost instantly. The print is then subjected to the bleaching process, consisting of immersing it in a solution of iodine compound, in which it should remain about five to seven minutes. After being rewashed in tap water, it is reimmersed in the 25 per cent solution of hyposulphate of potassium. All photographic images will disappear, leaving only the India ink contours, now outstanding upon the white surface. (See Fig. 2.)

Care should be taken while tracing the skeletal contours, to trace also the contours of the opaque markers. From such a prepared print, a lantern slide is made to be used for projection.

This entire process, although apparently complicated, can be carried out with ease at any office, as there is nothing more to it than the slight modification of the usual technical process familiar to any commercial photographer. Now, having the lantern slides in our hands, all that is necessary is to project it upon the patient's body, adjusting the size acuteness of the image, until such point when the contours of the three opaque markers cover and correspond exactly to the tracing of those markers upon the skin of the patient, made after taking the x-ray picture.

Here we can proceed in two ways: Either by outlining the contours of the superficial and deep bony landmarks with mercurochrome, following the contours of the reprojected image, or by employing this projection in the operating room during the blocking. (See Fig. 3.)

For the purpose of blocking, all that is necessary is to introduce the needle at the point traced on the surface of the skin perpendicularly downward, until the corresponding deep bony landmarks are reached, which is accomplished with ease. The needle is left *in situ*, and another needle is introduced toward the upper transverse process, ribs, etc. After locating the upper deep landmarks, this needle is also left *in situ*.

Now we have a perfect location of two deep bony landmarks, including definition of depth. One of the blocking needles is partially withdrawn (upper or lower, whichever it may be according to the desired technique), its angle changed according to the surface of the skin, and the needle reintroduced into the direction of the now well defined second bony landmark until paresthesia is produced, as defined by the patient; its radiations conclusively proving that the injection will be applied at the desired location, in the proximity of the nerve trunk.

For several months, the equipment used by myself was nothing but an ordinary stereopticon of the portable type. For the projection, the patient should be in a sitting position with shoulders brought backward and chest slightly expanded, back straightened, so that the condition corresponds closely to the position and arching of the back as during the taking of the x-ray plate.

Later on, as the necessity arose, because of the amount of work to be done, we constructed a portable stand, upon which a projector could be mounted, so that it could be used in the operating room about the operating table. Should we desire to project the image while the patient is lying on the table, it should be seen to that the small cushions are properly placed under the patient's hips, abdomen and chest, in such a manner that the back is flat as during the taking of the x-ray film. For all tracings and skin markings, we recommend the alcohol ether solution of mercurochrome, because of its rapid drying and its visibility under the iodine painting customary in the preparation of the operating field.

ADVANTAGES OF THIS METHOD

This method of locating and visualizing on the surface of the skin all the superficial and deep bony landmarks, is far superior to the arbitrary schematic tracing of the old methods. Not only does it clearly show an anatomical variation, but it also permits us to visualize on the surface of the skin the corresponding relations of various deep structures in the natural or pathological form. For example: malformation of the vertebral segments, transverse processes as well as productive osteoarthritic changes around them. This method also permits this visualization to be strictly individual for each particular case.

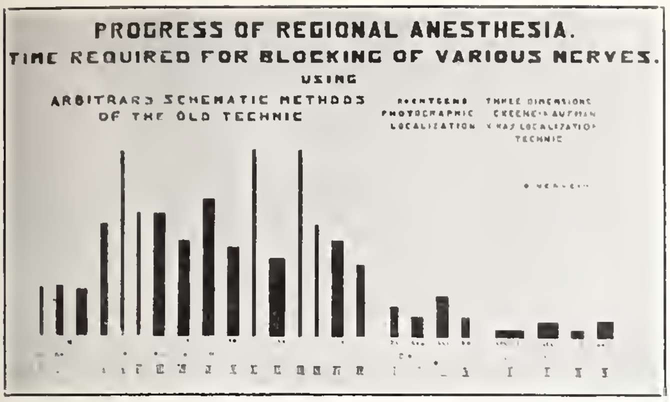

Fig. 6.—Represents chart showing graphic comparisons of time necessary for blocking while using the old empirical technique and the modern x-ray localization method. The height of each column represents the number of minutes per nerve consumed for blocking procedure. The width represents the number of nerves blocked in each individual case. The blocking time has been shortened by scientific x-ray localization from an average of fifteen minutes to an average of three minutes.

I wish to emphasize the fact that although special equipment, such as operating room stand, and so forth, will greatly facilitate and expedite the work, it is not a necessity. The ordinary stereopticon which can be found in every modern hospital today, will answer the purpose. This method, although far from being one hundred per cent—for perfection is not of this world—permits a more scientific technique and offers a valuable means in a practical application of regional anesthesia in general and nerve blocking in particular. Its merits are so evident that it promises to become a method of the future.

The radiographic localization method does not replace the necessity on the part of the surgeon to have a thorough knowledge of anatomy; nor is it meant to replace the necessity of a properly established neurologic diagnosis, in cases of therapeutic nerve block. Such a diagnosis can be only properly rendered, provided all available scientific and laboratory means are utilized, including adequate x-ray and skin and temperature measurements, use of the electric percussion hammer, testing of the superficial skin sensitiveness with pin prick and neurologic brush.

Before offering the use of this method to the medical profession, a considerable amount of research work and clinical experimentation was done. I feel that although there is still room for improvement, especially in regard to mathematically defining the depths—a problem upon which I am now working, in coöperation with one of our radiologists—the method as is, is practical and can be used to great advantage. The principal objection raised against this method, is the necessity of taking x-ray pictures. To this I can only answer that we certainly expect to examine the chest of our patient before administering the inhalation anesthesia. Therefore, it is no more than fair to the patient to have an x-ray picture taken, if we intend to penetrate the region knowlingly, not blindly, with our needles, for the purpose of induction of regional anesthesia. The amount of time—as well as the comfort of the patient—saved in the operating room, greatly compensates for the small additional outlay of money and trouble in preparation.

REPORT OF CASES

Case 1. —*History* — Woman, age fifty years. Two years ago pain supervened in the back and along the spinal column, on bending or doing house work. The pains increased in severity and several physicians were consulted, without benefit, so that the patient became a drug addict. Testing of the lower extremity with the electric percussion hammer revealed marked tenderness over the route of the first sacral division as well as the first, second, and third lumbar, involving the branches, internal crural, external lateral cutaneous and sciatic nerves. Pain radiating toward the ankle on both sides and toward the big toes; also along the line of Poupart's ligament.

Diagnosis.—Acute neuritis, involving first, second, and third lumbar and first sacral division on left side; of focal origin (teeth, sinuses, vagina); complicated by chronic cholecystitis, secondary anemia, narcotic drug addiction and neurasthenia. The findings on x-ray examination led to the diagnosis of arthritis deformans of the spine. Performance of laminectomy two years previous to our examination. Repeated x-ray examination showed slight productive changes at the margins of the dorsal vertebrae, especially from the sixth to the twelfth; productive changes between the twelfth dorsal and first lumbar vertebrae. Examination of the sacro-iliac spine revealed slight productive changes at the margins of the sacro-iliac synchondroses, more pronounced on the left side, also around the first sacral segment.

Nerve Blocking at Madison Park Hospital. Operating surgeon, Dr. G. Labat; assisting surgeon, Dr. M. Greene. Retesting of painful area with the electric percussion hammer confirmed the previous diagnosis and it was decided to block the second and third lumbar division on the left side and the first and second sacral. The solution used for blocking consisted of four cubic centimeters of one per cent novocain and eight cubic centimeters of 95 per cent alcohol. Six cubic centimeters of solution were used for blocking each nerve. Immediately upon the blocking of the second lumbar division the patient felt a heat-like sensation radiating toward the hip-joint. After the injection of the second lumbar the painful sensation along Poupart's ligament was replaced by formication. After the injection of the third lumbar the pain in the middle aspect of the thigh disappeared. Tenderness over the posterior aspect of the leg, big toe, and sole still persisted. Blocking of first and second sacral was followed by an intensive burning sensation, radiating downward to the foot and replacing the painful sensation at the big toe.

Following the nerve blocking, the patient felt relieved and the pain gradually subsided. About two months later, there was tenderness in the lateral, posterior, or internal aspect of the thigh, leg, and ankle. The leg could be passively moved in all directions without the slightest difficulty or pain. Even hard knocking on the thigh and leg did not cause any painful reaction. The patient complained of pain in the back, at the site of the laminectomy, also of painful and burning sensations throughout the body and in the other leg. These and other disturbances, such as hot flashes and general nervousness, were all traceable to the climacteric and rheumatoid infection.

She was discharged and instructed to return for reexamination in six months. For a period of several months the pains were relieved. Pin-prick tests revealed normal cutaneous sensibility throughout both legs. Marked tenderness on deep pressure over the first and sacral nerve on the left side. Treatment of the infected sinuses and gynecological affections was advised, with recommendation of reblocking of first and second sacral in six months if it was found that no relief would follow the removal of the focal infections.

Reëxamination one year later revealed patient in an excellent condition and well able to attend to all household duties, and complaining only of a slight weakness of the spine at the site of the laminectomy.

* * *

Case 2.—Woman, age forty-five years.

Diagnosis.—Posterior intercostal neuralgia. Examination with electric percussion hammer showed marked tenderness in the posterior aspect of the second and third ribs, approximately at the border of the rhomboideus major. The x-ray examination revealed nothing aside from slight roughening of the intercostal borders in the second, third, fourth, and fifth ribs.

Nerve Blocking.—Operating surgeon, Dr. G. Labat; assisting surgeon, Dr. M. Greene. A two per cent novocain solution mixed to the extent of 33 per cent with alcohol of 95 per cent strength was used for blocking, with injection of five cubic centimeters of this solution. Immediately after the injection the patient felt a heat-like sensation at the site of the sharp pain. This heat became subsequently replaced by the complete disappearance of the pain which had existed for twenty-five years prior to the blocking. Muscular spasm and tenderness over the chest muscles subsided entirely after physio-therapeutic treatment. The patient was enabled to do hard housework, without the slightest difficulty. No pain on bending or on pressure over the area where the neuralgic pains previously existed. Reëxamination six months later revealed excellent general condition. No return of pain and no tenderness under the left shoulder blade or over the chest.

* * *

Case 3.—Woman, age twenty-five years. Pain in the left shoulder and inability to move the arm. Duration, six weeks.

Tentative Diagnosis.—Neuritis, involving anterior and posterior cervical division on the left side, with reflex irritation of first, second, and third dorsal division on left side, of focal type and obscure origin, with suspected foci in the teeth, sinuses, and vagina. Alcohol blocking by paravertebral technique was recommended.

Operation.—Operating surgeon, Dr. M. Greene; assisting surgeon, Dr. Thomas W. Bath. Dr. Greene's modification of the Labat technique was utilized. The x-ray localization method was employed. Eighty by eight needle was introduced through the skin following raising of dermal wheal above the first, second, and third dorsal transverse processes. The needle introduced downward perpendicularly to the skin surface into the deep structures, passing through superficial and deep fascia. Contact made with corresponding ribs and locating needles left *in situ.* The needle placed in contact with the first dorsal transverse process withdrawn up to the cutaneous level, its direction changed and needle advanced downward and inward into the direction of the second lateral paravertebral space; paresthesia induced on contact with nerve and injection of three cubic centimeters of solution, consisting of one part of 95 per cent alcohol and four parts one per cent novocain was made. Blocking was immediately followed during the injection by sharp, burning sensations radiating through the shoulder and forward to the chest. The needle above the second rib was then withdrawn up to the skin level, its direction was changed, and the needle was advanced inward and downward toward the third paravertebral lateral space. The nerve was located and an injection of three cubic centimeters of the blocking solution was applied. During and after the injection the patient felt a sensation of warmth extending toward the shoulder and arm and radiating toward the elbow. The blocking needles were now withdrawn from the dorsal region and the patient was placed face up on the table in order to expose the field of operation, namely, the shoulder-joint region, including all of the clavicle as well as the lateral and frontal part of the neck. Fifty by seven needle used, following raising of the dermal wheal one centimeter above the clavicle at the middle line of the same. The blocking needle introduced deep into the fascia and the first rib located. Following aspiration test, injection made of 15 cubic centimeters of blocking solution, consisting of one part of alcohol 95 per cent and thirty parts of one per cent novocain. Immediately following the injection the patient felt a tingling sensation in the elbow, wrist, and fingers. Certain voluntary movements were recommended immediately following the blocking, and could all be accomplished with ease without any assistance. Slight stiffness of the shoulder was still claimed on the day of the operation. On examination ten days later, the patient had perfectly normal use of her arm.

* * *

Case 4.—*History*—This patient, a woman of sixty years, complained chiefly of pain in the right shoulder and arm, with inability to raise the limb, of five years' duration. Examination of the affected shoulder proved extremely painful. Voluntary rotation or extension, either lateral or forward, was entirely impossible. Marked symptoms of ankylosis. The electric percussion hammer revealed a well-defined tenderness over the third, fourth, and fifth cervical region, radiating downward toward the middle segment of the clavicle, and on the lateral and internal surface of the arm and forearm, passing to the wrist. Tenderness in the hand was more marked on the ulnar than on the radial side. Moderate tenderness in the shoulder and arm along the path of median nerve. Posteriorly, the tenderness radiated forward laterally and downward over the scapula and toward the third and fourth ribs. There was almost complete ankylosis of the right shoulder joint, of traumatic origin. Arthritis deformans of the spine and upper extremities.

It was recommended to block the brachial plexus and the first and second dorsal division with alcohol and novocain, to be followed immediately by extensive diathermia, passive motion and massage for a period of four to five months.

First Operation.—Operating surgeon, Dr. M. Greene; assisting surgeon, Dr. M. R. Walker. The patient in the recumbent position, face up, the right arm slightly extended laterally and supported by cushions. A 50 by 7 Labat needle was introduced downward through the skin, piercing the superficial and deep fascia. Contact with the first rib was made, resulting in paresthesia, expressed by the patient as a sharp pain passing into the elbow. The solution used for blocking consisted of forty parts of one per cent novocain and one part of 95 per cent alcohol. A Labat syringe was attached to the needle, the aspiration test was performed, and an injection of 12 cubic centimeters of the solution was given. The patient felt radiating burning sensations passing to the shoulder, the elbow, wrist and fingers of the right hand. A moderate degree of paresis was produced; followed by application of passive movements of the shoulder which were accompanied by some pain, but no muscular rigidity. A number of voluntary movements could be carried out with only slight discomfort, such as raising the shoulder, moving the arm laterally and placing the right hand over the left shoulder. The easy performance of the voluntary movements was subsequently still further increased, under more definite anesthesia of the shoulder joint. The cutaneous test revealed anesthesia along the ulnar, radial and median nerves on the blocked side. The postoperative treatment consisted of rest, to be followed three days later by physiotherapy. Two days later, supplementary nerve block was instituted.

Second Operation.—Patient was placed face down on the operating table, right shoulder supported by cushion. Operating field swabbed with iodin, excess removed with alcohol. Modified Labat technique was used. An 80 by 8 needle was used for localization. Dermal wheal raised five centimeters from the middle line above the transverse processes of the first, second, third and fourth dorsal vertebrae on the right side. A dermal wheal, two centimeters from the middle line, raised above the transverse process of the seventh cervical vertebra at the place marked by projection. Needles introduced into the superficial and deep fascia, taking contact with the respective deep bony landmarks; the contact needles left *in situ.* The needle above and in contact with the first dorsal transverse process and the rib was withdrawn to the subcutaneous level. Its direction changed inward, backward and downward, taking a 45 degree angle to the surface of the skin. The needle advanced three centimeters deep from the depth of the previous contact and a paresthesia was produced, expressed by patient as shooting pain going through shoulder and arm; then the syringe was attached to the needle; aspiration tests made and the injection of four cubic centimeters of blocking solution made; then the needle above the second transverse process in dorsal region withdrawn as above. Its direction changed and needle advanced, producing required paresthesia, and injection of six cubic centimeters blocking solution made after aspiration test. The needle left *in situ* and in contact with the seventh cervical transverse process was then withdrawn to the cutaneous level. Needle direction changed by advancing it laterally and downward one centimeter deep and then injection of one cubic centimeter of blocking solution made. All needles withdrawn. Patient placed on her back on the operating table. Field, consisting of the clavicle, shoulder, and right side of neck, prepared with iodin; excess removed with alcohol. Subclavian palpated at the middle point of clavicle and retracted downward by means of finger pressure. Dermal wheal raised one centimeter above clavicle, just laterally to the finger-palpated artery. A 50 by 5 needle was introduced deep into the structure, taking contact with the first rib; its direction slightly changed; paresthesia produced, expressed by patient as a sharp feeling going into arm, elbow, little, fourth, and middle fingers. A syringe attached to the needle; aspiration takes place and injection of 20 cubic centimeters of one per cent novocain made. Following the injection, complete relaxation of all the shoulder joints was clearly visible. The arm was forcibly manipulated at the shoulder joint by complete rotation and by placing the right hand at back of head. Cracking noises were very audible during manipulation, probably due to displacement of deposits in the shoulder joint. The whole arm became very warm and markedly pinkish. The right hand was placed over the left shoulder and the arm immobilized by means of a triangular bandage in that position. Following an attack of hysterical depression, which promptly subsided on administration of ice water, the patient was returned to her room in a cheerful condition. There was apparently no change in her blood pressure.

Reëxamination ten days later revealed patient, who was markedly improved and who for the first time in five years was able to comb her hair without help. She is to continue with physiotherapy.

1510 President Street, Brooklyn, N. Y.

DISCUSSION

Claude E. Piersall, M. D. (Medico-Dental Building, Reno, Nevada).—Doctor Greene deserves the credit of promoting and using a clever x-ray method of localization for the purpose of making block anesthesia scientific that it may be generally and successfully performed.

He is an artist at this work because he has done so much of it. There are a few others who are also artists for the same reason. There is no need now of doing hundreds of these cases to become adept, because the localization method can be easily learned and duplicated.

Visualization has always been a major factor in diagnosis and surgery. X-ray visualization of important bony structures is undoubtedly essential in successful block anesthesia. It saves time and accidents.

This work is a boon to medicine in general, but particularly in the fields of neurology and orthopedics as is seen in two patients here this evening. Many patients with fractured cervical spines would prefer death to their constant pain but for hopes of relief. Some of them become morphin addicts. Therapeutic regional anesthesia is the treatment of choice for them.

I congratulate Doctor Greene on his untiring energy and his success. He displayed his instruments at our recent Nevada state medical meeting, gave us a lantern slide demonstration of a little of his work, and in Reno he has proven his skill. This paper is quite comprehensive and very valuable.

QUINIDINE THERAPY IN AURICULAR FIBRILLATION*

AN EVALUATION BASED ON ITS USE OVER A SIX-YEAR PERIOD

By William W. Newman, M. D.
and
Harry Spiro, M. D.
San Francisco

Discussion *by R. Manning Clarke, M. D., Los Angeles; William J. Kerr, M. D., San Francisco.*

IN estimating the value of any therapeutic measure certain considerations deserve attention. Among these are the following:

1. Are the chances of a successful application of the measure sufficiently great?

2. Will the measure, if successfully carried out, add to the patient's well-being or length of life?

3. Are the dangers involved in the treatment too great in view of the possible benefits to be derived?

4. Will the duration of the benefits derived, if the treatment is successful, probably be long enough to make the time, money, and risk involved justifiable?

If the answer to all these questions is favorable, then the measure surely is of merit; if the answer to any one of them is unfavorable the measure under consideration may not be worthy of application.

The value of quinidin in the treatment of auricular fibrillation, judged by the criteria set forth above, is still on trial despite the fact that since its introduction by Frey[1] in 1918 it has been widely used and reported upon. We have been able to find in the literature, reports of 665 cases of auricular fibrillation treated with quinidin, and in the past six years we ourselves have treated sixty-six patients, forty-one of whom we reported to the American Medical Association (1928) and to which we are now adding twenty-five more. Eismayer,[2] in 1927 collected reports of 1,058 cases.

This is a mass of material from which one should be able to derive fairly reliable conclusions. Let us then briefly consider each of these criteria in respect to the use of quinidin in auricular fibrillation so far as our sixty-six cases and the experience of others will go.

DOES QUINIDIN THERAPY GIVE BENEFICIAL RESULTS

1. The first question, "Are the chances of a successful application of the measure sufficiently great?" can be easily and definitely answered in the affirmative, as a glance at the accompanying table will show that sinus rhythm has been restored in from 60 per cent to over 80 per cent of the patients treated by various men during the last

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* A follow-up on sixty-six cases in private practice with an attempt to determine if the use of quinidin in the treatment of auricular fibrillation is really worth while.

* Read before the General Medicine Section of the California Medical Association at the sixtieth annual session, San Francisco, April 27-30, 1931.

Table 1.—*Percentage Restoration of Regular Rhythm With Quinidin*

Author	Number of Patients Treated	Per Cent Restored to Sinus Rhythm
Spiro and Newman	66	82%
Harris[3]	43	60%
Viko, Marvin and White[4]	71	68%
Wolff and White[5]	62	67.7%
Maynard[6]	53	71%
Reicher[7]	52	79%
Frey[8]	50	42%

six years, the earlier statistics being not quite so favorable (Table 1). Our own per cent of successful restoration to regular rhythm in our total of sixty-six patients is 82 per cent.

RESTORATION OF SINUS RHYTHM CONSERVES HEALTH AND LIFE

2. The second question, "Will the measure if successfully carried out (*i. e.*, if sinus rhythm is restored) add to the patient's well-being or lengthen his life?" does not lend itself so readily to statistical analysis, since the estimation of whether or not a patient is better off under one set of conditions than under another depends so largely on the personal opinion of the one making the estimate. From a purely theoretical point of view there should be no question but that the heart beating rhythmically in response to impulses arising from the sinus node, and under the natural control of the vagus and sympathetic nerves, should respond better to the needs of a changing environment and afford a more efficient circulation than the irregularly contracting and poorly controlled heart in auricular fibrillation, with its virtually paralyzed auricles, no matter how thoroughly it is under the influence of digitalis. Many of the ventricular contractions in auricular fibrillation, even if the rate is slow, are relatively inefficient, and it has been shown experimentally that the normally contracting auricles have an appreciable effect on the proper filling of the ventricles. Moreover, Stewart has shown that the heart in auricular fibrillation is less effective in the propulsion of the blood than during normal slow rhythm or in regular tachycardia, and that although auricular fibrillation does not affect the O_2 saturation of arterial blood, it does lower that of venous blood.

Moreover, from a clinical standpoint it is our own impression that a certain per cent of patients are able to work better and are freer from symptoms while maintaining a sinus rhythm than when fibrillating, even when properly digitalized. This is also the impression of Wolf and White,[3] reporting the results of seven years' treatment with quinidin sulphate (*Archives of Internal Medicine*, 1929), in which they are more emphatic, stating that they believe the health of the patient is promoted by normal rhythm and "that there can be no doubt that these patients have been benefited by the drug." It must be borne in mind, however, that in our series, as with others, this is largely a mere opinion only, as we have seen no comparable control group under digitalis, and it had been (during the period covered by this series) our practice to use quinidin in all patients with auricular fibrillation in whom we were first able to establish a fair degree of compensation with digitalis, bed rest, etc. It is of course manifestly unfair to compare the condition of these sixty-six patients after compensation and sinus rhythm had been restored, with their state before treatment, when the great majority were being inadequately treated with digitalis, if at all. There are some other factors which cast some doubt on how greatly the restoration of sinus rhythm benefits a patient in comparison to proper control with digitalis. One of these is the fact that among our patients who maintained a sinus rhythm under quinidin for some two to three years, and who finally reverted to permanent auricular fibrillation, there are eleven who for one or two years have been doing as well under digitalis as they ever did under quinidin despite the fact that they are several years older and their underlying cardiac pathology presumably more advanced. Is it not fair to raise the question whether these eleven patients may not have done as well or better if they had been kept on proper doses of digitalis from the start? Moreover, there are a few patients who, either because they were not considered fit subjects for quinidin or because they refused it, have, nevertheless, done fully as well on digitalis as we could have expected them to do had we treated them successfully with quinidin. However, despite the above considerations which tend to make us a little conservative in our estimate of the benefits derived, it is our feeling that most of the patients were better, and some were markedly better, during the period in which sinus rhythm was maintained.

This brings us to one of the most important considerations in the estimation of the value of the treatment of auricular fibrillation with quinidin, and that is the duration of the maintenance of sinus rhythm; for, granting that a restoration of sinus control is beneficial, if that benefit is not maintained for a reasonable length of time, then the treatment really constitutes a mere stunt, spectacular and gratifying to the physician as evidence of the potency of his physic, but of no real value to the patient.

HOW LONG SHOULD SINUS RHYTHM BE MAINTAINED

How long should one consider that sinus rhythm must be maintained to be worth while? In answering this question it must be kept in mind that the patients who should properly be selected for the use of quinidin, are those in whom a fair degree of compensation can be restored with digitalis and are therefore not of the type in whom any respite from grievous suffering, no matter how short, is to be considered a blessing. On the contrary they are of the sort whom we might expect to go on in reasonable comfort for months

TABLE 2.—*Duration of Regular Rhythm in Patients Followed to Date*
(No patient observed for less than one year included)

Author	Total Patients	Less than 1 Year	1 Year or More	2 Years or More	3 Years or More	4 Years or More	5 Years or More	6 Years or More
Spiro and Newman	40	39%	70%	57%	35%	20%	7%	5%
Viko, Martin and White	38	66%	34%	11.7%+	11.7%+	11.7%+	11.7%+	11.7%+
Wolff and White	29	62%	38%	28%	10%	3%	....	....

or years on digitalis, and in whom, therefore, an improvement of the degree which we might offer them by a restoration of sinus rhythm with quinidin should be maintained for a period which we will arbitrarily set at at least one year to be worth the time and money spent and the risk incurred. We fully realize that this figure of one year is purely an arbitrary one, but we feel that on an average it is a fair requirement on which to base our estimate of the value of quinidin therapy to the patient. Taking this figure of one year as the minimum duration of sinus rhythm which may be considered worth while in the treatment of auricular fibrillation with quinidin, we may ask whether the chances of the maintenance of sinus rhythm for at least this arbitrary minimum are sufficiently great to justify the use of the drug from the standpoint of the permanence of the results.

The writers believe the figures in Table 2 will easily show that they are.

ANALYSIS OF FINDINGS IN FORTY PATIENTS

Our own figures, as given in Table 3, show the following on the forty patients who have been under observation to date of this report.

Present Status.—The present status of these forty patients is as follows:

Eleven, or 28 per cent, are still maintaining sinus rhythm.

Eighteen, or 45 per cent, have reverted to auricular fibrillation.

Eleven, or 28 per cent, are dead.

In considering the above figures for the maintenance of sinus rhythm the following points must be kept in mind. In the first place, all the patients, as far as possible, were kept on a constant daily ration of quinidin, varying from between four grains daily to four grains three times per day so long as their pulse rates remained regular. This was not always possible, as not infrequently a patient neglected to take the drug after he felt well for some time; nevertheless, the great majority of patients were conscientious in this respect. We think that this daily rationing is of the utmost importance, and that it postpones a reversion to auricular fibrillation materially, for it is a frequent occurrence on questioning a patient who has reverted to auricular fibrillation to discover that he had stopped the drug on his own initiative a few days or weeks prior to the reappearance of auricular fibrillation.

TABLE 3.—*Duration of Regular Rhythm in Forty Patients Observed for at Least One Year After Treatment With Quinidin*

Less than one year	12 (30%)
One year or more	28 (70%)
Two years or more	23 (57%)
Three years or more	14 (35%)
Four years or more	8 (20%)
Five years or more	3 (7%)
Six years or more	2 (5%)

Another factor for which allowance must be made in evaluating the above figures is that in estimating the duration of sinus rhythm no consideration is taken of the fact that most of the patients have had temporary reversions to auricular fibrillation lasting for from a few hours to a few days, thus necessitating a temporary increase in the quinidin dosage to reëstablish sinus rhythm. This is apparently what happened also in Wolf and White's series. Some of them have had six to eight such transient reversions, perhaps more, while all but a very few have had at least one reversion. It is only when auricular fibrillation recurs and a reasonable effort to restore rhythm finally fails that we have considered the maintenance of sinus rhythm terminated in computing the above figures. In the successful use of the drug a retrial of quinidin when a patient reverts to auricular fibrillation, we consider a very important factor, as it is not rare that a patient will revert to auricular fibrillation several times in the first few months, and then finally maintain sinus rhythm on a small daily dose for years. On the other hand, we also find it true that with most patients a time arrives when it becomes increasingly difficult and finally impossible to restore normal rhythm. In this regard we feel that when a patient begins to revert to auricular fibrillation every few months, requiring repeated increase in quinidin dosage to reëstablish sinus rhythm, that it is wisest not to make too repeated and strenuous attempts at restoration; as the period immediately following the onset of each attack of auricular fibrillation with its rapid heart rate before digitalis control can be obtained is a real hazard to the patient and one to which he should not too often be subjected. Especially as some of these patients when their hearts can no longer be kept regular with quinidin will often do surprisingly well while fibrillating under digitalis control. We have eleven such patients among our forty whom we are no longer attempting to regulate with quinidin and who, to our surprise, are doing about as well, and in a few instances even better than when they were receiving quinidin. It is also our opinion that practically all patients who have had auricular fibrillation abolished by means of quinidin will revert to auricular fibrillation eventually, provided they live long enough for the underlying organic cardiovascular pathologic changes to bring about the inevitable heart failure which must finally supervene, barring accidents, cardiovascular or otherwise.

DANGERS OF QUINIDIN THERAPY

The fourth and last point to be considered is the danger involved in the treatment. A good deal of nonsense has been said about the dangers of quinidin therapy. Condemnation of its use with the bald statement that "it is a dangerous drug" or that it is a "heart muscle poison" is senseless; arsphenamin is also a dangerous drug and digitalis is a most potent heart muscle poison. Is there a remedy in our armamentarium of which much the same cannot be said if it be used on the wrong patient or at the wrong time or in the wrong manner or dosage? The important question to consider in evaluating any drug is whether the margin between its effective therapeutic dose and its toxic or fatal dose is sufficiently wide. This question of toxicity is complicated in case of the treatment of auricular fibrillation with quinidin by the added danger of the possibility of an embolic accident immediately or shortly after the restoration of sinus rhythm; which possibility depends, of course, not on the direct poisoning effect of the quinidin on the heart muscle, but on the likelihood of the heart chambers containing easily dislodged thrombi. Let us briefly consider each of these two elements of danger separately.

Direct Toxic Effect.—As far as the direct toxic effect is concerned we have not had a fatality attributable to this cause in the treatment of sixty-six patients. Minor toxic manifestations such as very slight dizziness, nausea or tinnitus, are common. We have seen only the mildest toxic symptoms from a daily dose of less than fifty grains, and since about 50 per cent of the patients had normal rhythm restored before that dosage was reached, it follows that at least 50 per cent escaped any appreciable evidence of toxicity. In addition, nine patients were sick enough to cause us a few hours of worry. Of these one became unconscious and pulseless for about two hours, the heart sounds during this time being very rapid and almost regular (ventricular tachycardia ?); another had repeated convulsive seizures at which times she also would become pulseless and her heart sounds too rapid and distant to count. Each of these patients recovered and was sent home. There were in addition two patients with a bidirectional ventricular tachycardia and one with a unidirectional ventricular tachycardia,[4] all three of whom appeared rather ill, but not alarmingly so. The other four showing toxicity, merely were quite dizzy and nauseated without any particular evidence of heart muscle poisoning, except perhaps a few extra systoles and some increase in pulse rate to between 90 and 100.

The experiences with these two patients who became unconscious and with three others in whom we obtained electrocardiograms showing ventricular tachycardia were, nevertheless, sufficiently startling, so that we realize that the possibility of a fatality from this cause is not so very remote.

Danger of Embolism.—The question of the danger of embolism we cannot decide to our entire satisfaction. In the sixty-six patients treated we had three deaths within two days after restoration of sinus rhythm, apparently due to embolic accident. One was in a man of sixty-five years of a cerebral apoplexy, one was in a man of seventy-two years of a pulmonary embolus, and one was in a patient of forty years with mitral disease and a very large heart who died suddenly about twenty-four hours after restoration of sinus rhythm, of what we assume to have been an embolus. Three embolic deaths out of sixty-six patients, or 4.5 per cent, would appear to be a rather high incidence except for this interesting fact, that there were also three patients to whom we were planning to give quinidin but who had not yet received any of the drug and were still up and about on digitalis who had embolic accidents and died a few hours to a few days before quinidin was given. Had we been unfortunate enough to have started quinidin a day or so earlier on these three patients their deaths would have doubled our quinidin death rate. Who can then say just how material a factor the quinidin was in causing the embolic accidents in the first three patients or how soon they would have thrown an embolus had they been left on digitalis and never given quinidin? Wolf and White report in their first series of seventy-two patients, "three patients died apparently as a result of the quinidin therapy," and in the second series of sixty-two patients they reported one sudden death.

Nevertheless, despite the fact that we have had no fatalities from the direct toxic effect on the heart muscle and that the three probable embolic deaths may have occurred even though quinidin had not been given, still we feel that there is a real element of danger connected with the use of the drug, as indeed there is with the application of practically every other major therapeutic measure, and that here, as elsewhere, the danger must be weighed against the possible benefits to be derived, and a balance struck. We believe that there is a rather high per cent of the patients with auricular fibrillation whom one sees in everyday practice in which the possible benefits to be derived outweigh the possible risks run, and in whom the decision to use quinidin should be made. Also that in a relatively small percentage the reverse is true, the possible risk involved being greater than the benefit likely to be derived. Is there any information to be gained from the material present which will help us to strike this balance?

ANALYSIS OF THIRTY-SEVEN PATIENTS IN WHOM SINUS RHYTHM WAS RESTORED

With this object in mind we have listed the thirty-seven patients in whom sinus rhythm was restored and whom we have followed to date, according to age, etiology, size of heart, and dura-

Table 4.—*Analysis of Forty Cases*

Group A.—Maintenance of Sinus Rhythm for Less than One year

Sex	Age	Etiology	Vital Capacity	Heart Size[7]	Time Regular	Present Status
F	40	Mitral	60	3	24 hours	Dead
M	38	Mitral	70	2	1 month	Fibrillating
F	40	Mitral	?	3	6 months	Fibrillating
M	65	H and A[1]	61	2	24 hours	Dead
M	72	Mitral	73	0	24 hours	Dead
F	....	Mitral	?	?	6 hours	Fibrillating
M	53	Aortic	62	?	9 months	Dead[2]
M	45	Mitral	?	?	2 months	Dead[3]
F	38	Mitral	?	3	1 day	Dead
M	70	H and A	?	1	4 weeks	Dead
M	69	H and A	?	?	3 days	Fibrillating
F	23	Mitral	?	2	1 month	Fibrillating
Group B.—One to Two Years						
M	48	No Path.[4]	78	0	1 year, 1 month	Regular
M	59	Thyroid	89	1	1 year, 10 months	Regular
F	50	Mitral	?	2	1 year	Fibrillating
M	52	Mitral	?	?	1 year, 6 months	Regular
F	48	Mitral	?	1	1 year plus	Regular
Two to Three Years						
M	40	No Path.	90	1	2 years	Fibrillating
F	46	Mitral	79	1	2 years, 1 month	Regular
M	59	Thyroid	90	1	2 years plus	Regular
F	41	Mytral	60	2	2 years plus	Regular
M	60	H and A	85	2	2 years plus	Dead
M	36	Mitral	78	0-½	2 years plus	Dead[5]
F	57	Thyroid	56	2	2 years plus	?
F	48	Mitral	?	2	2 years plus	Fibrillating
F	25	?	?	?	2 years plus	Dead
Group C.—Three to Four Years						
F	64	H and A	73	2	3 years	Fibrillating
F	40	Mitral	80	2	3½ years	Fibrillating
F	54	H and A?	....	2	3 years, 4 months	Fibrillating
F	39	Mitral	....	2	3 years plus	Fibrillating
F	46	A. Thyroid[6]	....	....	3 years plus	Regular
F	34	Mitral	75	3	3 years plus	Fibrillating
Group D.—Four to Five Years						
M	40	Mitral	40	2	4 years	Fibrillating
M	30	Mitral	100	0	4 years, 8 months	Regular
F	48	Mitral	36	....	4 years, 8 months	Fibrillating
M	64	Mitral	60	....	4 years, 6 months	Dead
F	54	H and A	42	3	4 years, 6 months	Fibrillating
Group E.—Five to Six Years						
M	62	Mitral?	?	1	5 years	Regular
Group F—Six to Seven Years						
M	52	Mitral	92	2	7 years plus	Fibrillating
F	60	H and A	100	1	7 years plus	Regular

[1] Hypertension and arteriosclerosis.
[2] Endocarditis lenta.
[3] Stopped quinidin against orders.
[7] Degree of increase graded from 1 (slight) to 3 (great).
[4] No pathology.
[5] Appendectomy.
[6] Aortic and thyroid.

tion of regularity. No patient who has not been followed for at least one year since restoration of sinus rhythm has been included. The factor of the length of time that the patient had been fibrillating before correction with quinidin, we have no doubt had an important bearing on the permanence of the results, but our own figures on this point are so indefinite as to be quite unreliable and, therefore this point has been left out of consideration. Study of the table gives some definite information.

There are twelve patients out of the forty, or 30 per cent, who failed to maintain a regular pulse for at least one year and whom we therefore list as failures, so far as any benefit they derived is concerned. Of these, one developed endocarditis lenta and died of a cerebral embolus nine months after establishment of sinus rhythm; another stopped his quinidin against orders after maintaining regular rhythm for two months and died suddenly while under no medication. The end results in these two patients should not be considered in evaluating the results of quinidin therapy. Of the rest of the patients who remained regular for less than one year, three are in the etiologic classification of hypertension and arteriosclerosis and are of the ages of 65, 69, and 72 respectively; two of these had embolic accidents shortly after establishment of sinus rhythm, and died. We have had no patient of sixty-five years or over who has benefited (according to our standards) from quinidin. The remainder of this group suffered from mitral lesions and who, although relatively young (thirty-eight to forty), had very large hearts, and especially large left auricles. Among the mitral lesion patients the size of the heart, and particularly of the left auricle, seems to be a much more important factor in the maintenance of sinus rhythm than the age factor (contrary to the experience of Wolf and White) since all of the mitral lesion patients in the "failure" group were young (thirty-eight to forty), but had very large hearts, while some elderly mitrals with smaller hearts have done very well, as study of the chart will show.

As is the experience of others, the thyroid group patients did uniformly well, the three such patients maintaining sinus rhythm to date. Hyperthyroidism was treated in one patient by subtotal thyroidectomy, and in the other two with x-ray applications.

In all classifications, and especially in the mitral group, the more nearly normal the heart was in size the better the patient did, this being contrary to the experience of Wolf and White.

SUMMARY

1. Sinus rhythm was restored by quinidin therapy in fifty-four patients, or 82 per cent, of the sixty-six patients with chronic auricular fibrillation, in whom a fair degree of compensation was restored by digitalis and bed rest, regardless of age, etiology, or degree of pathology.

2. Of the fifty-four patients in whom sinus rhythm was restored, forty patients have been followed to date with the following results:

Twelve, or 30 per cent, reverted to auricular fibrillation before the end of one year.

Twenty-eight, or 70 per cent, maintained sinus rhythm for one year or more.

Twenty-three, or 57 per cent, maintained sinus rhythm for two years or more.

Fourteen, or 35 per cent, maintained sinus rhythm for three years or more.

Eight, or 20 per cent, maintained sinus rhythm for four years or more.

Three, or 7 per cent, maintained sinus rhythm for five years or more.

Two, or 5 per cent, maintained sinus rhythm for six years or more.

3. Of the sixty-six patients who were treated, three patients, or 4.5 per cent, died within a few hours of the restoration of sinus rhythm, apparently of embolic accidents. Three more patients, or 4.5 per cent, were alarmingly toxic; and six patients, or 9 per cent, moderately so.

4. Of the forty patients followed to date, eleven, or 28 per cent, are still regular; eleven, or 28 per cent, are dead; eighteen, or 45 per cent, have reverted to auricular fibrillation.

5. The most unsatisfactory group, both from the point of view of mortality and duration of sinus rhythm, were the arteriosclerotic and hypertensive patients who were over sixty-five years of age.

6. The next most unsatisfactory group were the mitral lesion patients, who had very large hearts, and especially those with very large left auricles.

7. In all classifications, and among the mitral lesion patients especially, the size of the heart was a much greater factor in influencing the duration of sinus rhythm than was the age factor.

CONCLUSIONS

Regular rhythm can be restored with quinidin in over 80 per cent of all patients in whom good compensation can first be established with rest and digitalis, regardless of the patient's age or the etiology or degree of their pathology. However, mere restoration of sinus rhythm does not constitute really successful quinidin therapy, so we would withhold it in patients over sixty-five years of age, and those with excessively large mitral hearts, regardless of their age; because of the danger of toxicity or embolism and the lack of permanency of the maintenance of regular rhythm in these classes of patients. In the remainder the results are sufficiently good to justify its trial.

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DISCUSSION

R. Manning Clarke, M. D. (1219 Hollingsworth Building, Los Angeles).—It is good to read this report of cases, followed up so carefully and thoroughly over a long period of time. The authors are to be complimented on their work, and I wish to agree with their conclusions in the matter.

The value of careful fluoroscopy in these patients can hardly be overestimated. Doctor Spiro some time ago gave a talk on the subject of fluoroscopy, explaining its value and the importance of estimating the ventricular excursion. As age advances and thrombi form, this ventricular excursion is materially cut down, and it is certainly well to avoid this type of therapy, as well as some others, in patients who show a very limited ventricular excursion.

It is also good to avoid the administration of quinidin for the restoration of sinus rhythm in those who are aged. In this I mean the age of their cardiovascular tree. They may be young in years, but if they have beady arteries, which are very tortuous with a roughened intima, there is always increased danger. If there is good excursion to the cardiac contraction, the blood pressure not too high, and if the radials are not tortuous or extremely fibrosed, I feel that the administration of quinidin for the restoration of sinus rhythm is indicated.

William J. Kerr, M. D. (University of California Medical School, San Francisco).—In discussing the paper by Doctor Newman and Doctor Spiro on the use of quinidin in auricular fibrillation I find it somewhat difficult to give an estimate of the value of this work without knowing a little more about how patients were selected for treatment. The high percentage of successful results in terminating the attacks of auricular fibrillation suggests that a good deal of selection was made before treatment was started. The results, therefore, are not comparable with those reported by others unless we know how many patients were seen during this time who were excluded from the series and more about the criteria upon which the patients treated were selected for this purpose. In our own clinic we have had approximately the same percentage of successful results in auricular fibrillation, but have excluded from treatment a great many patients who would have been included in earlier series.

It is somewhat difficult to say anything about the statistical results reported by these authors. The authors state that they would not use quinidin in patients over sixty-five years of age, but do not offer any real proof that there is great danger in this group. It seems to me that it is one of the most valuable drugs for many of our old people who are beginning to show paroxysmal auricular fibrillation or have auricular fibrillation develop during the course of an infection or following an operation. It is quite certain that in many of these cases quinidin will not maintain a normal rhythm, but it seems to be of very great value in tiding some of these older people over a critical period. With regard to quinidin in general, it seems to me that if one can restore the normal sinus rhythm the patients are usually more comfortable than they were with auricular fibrillation. The only exceptions to this are those cases where the patient develops a tachycardia which may be the cause of more discomfort than the patient experiences from the auricular fibrillation. I think if one can restore the normal sinus rhythm and maintain it for a period of a few months that the treatment is worth while. So often the onset of one of the irregularities seems to herald a general circulatory failure, and if the irregularity can be stopped, then the prognosis seems a little bit more hopeful.

The dangers in the use of quinidin are to be kept in mind. We must remember that quinidin is a powerful drug and that if we are to give it until we secure some effects from it, there will be cases where toxic effects will appear. These, fortunately, are usually transient, but occasionally may be very serious. Embolism, of course, is one of the accidents which may occur during treatment or when the sinus rhythm is restored, but we must remember that it is in that same group of cases that embolism occurs with digitalis or without any treatment at all. It is doubtful whether the quinidin should really be blamed for many of these accidents. Physicians should learn how to use this drug just as they have to learn how to use morphin, digitalis, and other potent drugs.

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Doctor Spiro and Doctor Newman (Closing).—We wish to thank Dr. Manning Clarke for his very kind appreciation of our paper. We consider the estimation of the vigor of the heart's pulsatory waves as seen fluoroscopically as one of the most important points in judging whether sufficient cardiac compensation has been restored to make the attempt at restoration of sinus rhythm with quinidin fairly safe.

Doctor Kerr states that in his clinic he has about the same percentage of cures of auricular fibrillation as we have had. He wishes to know more of the reasons for our conclusions why we do not approve of the use of quinidin in patients with chronic auricular fibrillation if the patient is over sixty-five years of age. In the text of our paper we stated that none of our patients over sixty-five years maintained a normal restored rhythm for a sufficient length of time to have warranted the danger incurred, and that one-half of the patients over sixty-five years died twenty-four hours after the restoration of normal rhythm.

We concur in Doctor Kerr's opinion that the physician should learn the proper method of using quinidin, but we who have been enthusiastic, even to the point of recklessness in the use of quinidin, are now attempting to give the medical profession the benefit of a safer and saner road to follow.

Among other subjects, Doctor Kerr speaks of paroxysmal auricular fibrillation. We beg leave to state that that subject was not under discussion. We agree to the use of quinidin for paroxysmal auricular fibrillation for any aged patient except those suffering from acute coronary artery occlusion, in which event we maintain that digitalis is the proper treatment.

THYROTOXICOSIS—END RESULTS IN ITS ROENTGEN TREATMENT*

By J. Marion Read, M. D.
San Francisco

Discussion *by William J. Kerr, M. D., San Francisco; William E. Costolow, M. D., Los Angeles; John Hunt Shephard, San Jose.*

THE material which forms the basis of this report is a follow-up study of thyrotoxic patients seen in the nine years, 1920 to 1928 inclusive. The reason no cases which have come under observation in the past three years are included in this series is because it was my endeavor to ascertain the late results of roentgen irradiation, that is, the condition of these patients three to eleven years after treatment. The impression seems to be widespread among those who favor surgical removal that irradiation of the thyroid is only palliative and seldom results in permanent cure. It is this point, particularly, upon which I hope to throw some light.

MATERIAL FOR THIS STUDY

Roentgen ray and general journals contain a great many statistical reports of the use and results of roentgen irradiation in thyrotoxicosis, and one more communication would merely seem like reaffirming what is, or should be, already generally known. Particularly, in view of the recent complete and excellent reports by Pfahler and Vastine[1] in this country and Holzknecht[2] in Germany, an additional report would only gild the lily unless some additional factors are incorporated. To secure additional data I reexamined as many former patients as I could reach and persuade to return for a complete examination. Anyone who has attempted to get in communication with patients seen five to ten years previously will appreciate the difficulties. I therefore have no apologies to make for the small per cent of former patients I was able to reëxamine, believing that the time element and the fact that most of them were seen and examined personally compensates for their small number.

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* Read before the Radiology Section of the California Medical Association at the sixtieth annual session at San Francisco, April 27-30, 1931.

I may add here that in addition to an interval history, a basal metabolic rate determination and examination for residual signs for thyrotoxicosis, I also endeavored to determine the integrity of the cardiovascular system. Each patient's heart was examined, blood pressure recorded, functional test made and electrocardiogram taken. A teleroentgenogram was also taken to determine heart size accurately. Only the general results of these examinations will be given here, as it is intended to make a detailed report on the cardiovascular system in thyrotoxic patients at a future time.

BASIS OF SELECTION FOR ROENTGEN THERAPY

This series does not embrace all thyrotoxic patients seen during the period covered because every such patient is not irradiated. Although all patients reported here had roentgen-ray therapy, each received also other treatment, including rest, forced feeding, iodin, sedatives, and such symptomatic therapy as seemed suited to his individual need.

In anticipation of the question, "Which patients are given roentgen-ray treatments?" I will reply that it is used in those patients who do not respond quickly and satisfactorily to other measures. I should add that since iodin has received general sanction I have found irradiation necessary in fewer cases than it was prior to 1924. I do not know, and I am not aware that anyone is prepared to tell us just what irradiation does to the thyroid, but empirically it produces amelioration of symptoms and objective improvements that can be measured quantitatively by a fall in the basal metabolic rate. I use irradiation as I do surgery, specifically in the more severe and resistant cases and believe that its effect differs from that of surgery in degree only. The roentgen ray accomplishes, temporarily and without risk, what surgery aims to produce permanently, namely, a reduction in toxicity and in basal metabolic rate. Experience has led me to the opinion that irradiation is no more a cure for Graves' disease than is surgery. I harbor no delusions, therefore, as to the ultimate curative value of this form of treatment, having been convinced years ago that thyrotoxicosis, especially the Graves' syndrome, runs a fairly definite course over a period of approximately one and a half to three years. Our therapeutic endeavors, including x-ray and surgery, may alter this course somewhat, but do not greatly shorten it and do not by themselves produce a cure. This viewpoint and the reasons for arriving thereat I set forth in the *Journal of the American Medical Association* in 1924.[3]

To correctly evaluate any therapeutic measure employed in the course of a self-limited disease is exceedingly difficult, if not impossible. I shall, therefore, not attempt it here. Upon numerous occasions I have already pointed out the peculiar power which the "post hoc, ergo propter hoc" fallacy exerts over the minds of therapeutists when discussion of thyrotoxicosis is their theme. I do not propose, therefore, to fall into this pit myself. I simply report here the results in a series of cases in which irradiation was used, believing that the results themselves are sufficient to justify the inclusion of irradiation in the list of therapeutic measures directed against thyrotoxicosis.

ADEQUATE DOSAGE

Since adequate dosage is essential in every case except in those who would recover anyway without any treatment, I will define what has proven adequate in our experience. During the past eleven years the technical factors involved in the roentgen treatments have changed considerably. In general it would be fair to say that the average patient received weekly radiations over each lobe of approximately 200 r. The ray was usually generated at 130 kilovolts, the beam being filtered through .25 millimeter of copper and 1 millimeter of aluminum. Twelve such treatments constituted a full course, only a few patients being given more than one such course in a year. In several obstinate cases a shorter, but similar, course was given in the second year.

REPORT ON FIFTY PATIENTS TREATED PRIOR TO 1928

In 1924 I reported the cases of fifty thyrotoxic patients treated by roentgen ray.[4] The present report embraces, in part, a follow-up study of such of that former series as could be located after an interval of seven to eleven years. In addition there are seven cases from patients treated between 1924 and 1928.

In a follow-up series to ascertain the effect of roentgen ray it seems advisable to exclude all cases where surgery has also been performed, since the extravagant claims made for surgery would almost certainly lead its proponents to claim all credit for any improvement which the patient showed.

Therefore from the 1924 series of fifty I would exclude five who had been thyroidectomized prior to being irradiated. Two of these are known to be alive, one of whom takes thyroid extract for her myxedema. A third patient could not be located. The fourth must be classed as both a surgical and x-ray failure, as she had a basal metabolic rate of plus 80 per cent four years after operation and after a year's treatment, including x-ray, the rate was plus four per cent, but she was not cured. She still had all the nervousness characteristic of true Graves' disease, and one day in her confusion she stepped in front of a street car and thus met her end. The fifth submitted to a second thyroid operation and died in three months from myxedema and tetany.

Seven of the series were operated upon shortly after being irradiated, the roentgen-ray therapy being used in preparation for surgery, or being considered a failure after a month or two of irradiation.

TABLE 1.—*Late Results in the Treatment of Thyrotoxicosis*

				Irradiations			Discharge					
No.	Name	Age	First B. M. R.	No.	Approximate r. to Each Lobe	Months Observed	B. M. R.	State	Time Since Discharge	Present Age	B. M. R. %	End Result
1	Mrs. E. B.	34	+23	....	....	3.5	+2	Impr.	10 yrs. 2 mos.	44	—4	Cured
2	Mrs. M. D.	45	+112	21	6090	20.0	+8	Impr.	6 yrs. 10 mos.	54	—2	Cured
3	Mrs. H. C.	41	+67	12	3200	3.5	+6	Cured	9 yrs.	50	—3	Cured
4	Mrs. C.	60	+60	8	4230	9.3	+17	Impr.	7 yrs. 6 mos.	69	+2	Cured
5	Mrs. R. B.	32	+42	3	1440	2.4	—7	Cured	7 yrs. 8 mos.	39	—1	Cured
6	Mrs. B. M.	28	+42	4	?	26.0	+25	Impr.	5 yrs. 6 mos.	35	—1	Cured
7	Mrs. B. S.	48	+45	3	795	4.0	....	Cured	7 yrs. 6 mos.	55	+4	Cured
8	Mrs. J. G.	46	+45	23	2300	32.0	+46	Chronic	7 yrs.	55	+7	Cured
9	Mr. K. S.	37	+66	14	4000	28.0	—10	Cured	4 yrs. 9 mos.	43	—6	Cured
10	Mrs. A. F.	43	+54	5	1140	26.6	+11	Impr.	1 yr.	46	+10	Chronic
11	Mrs. G. B.	49	+55	8	800	24.0	....	Impr.	4 yrs.	55	+27	Chronic
12	Miss E. R.	12	+40	12	2850	3.0	+12	Cured	4 yrs. 10 mos.	17	....	Cured
13	Mr. R. S.	43	+65	6	?	7.0	+49	Impr.	6 yrs.	50	....	Chronic
14	Miss C. H.	42	+62	3	600	32.0	+32	Impr.	4 yrs. 3 mos.	49	....	Cured
15	Mrs. F. S.	27	+23	5	?	22.0	+14	Impr.	2 yrs.	31	+24	Chronic
Average		39	+53			15.6	+15		6 yrs.	46	+5	

Eliminating these thirteen who received also surgical treatment, there remain thirty-seven, of whom one is known to have died of malignant hypertension. Of the other thirty-six I have been able to secure follow-up data on eight who reported in person for re-examination.

The detailed results of this study are shown in Table 1, and it is only needful to mention here the chief features and present two illustrative cases. Final results of treatment are given in two catagories only—"cured" and "chronic," this latter designation implying that treatment failed. The severest criteria were used in judging the results. Every patient whose metabolic rate was not within normal limits or who had any residual signs or symptoms was classed as uncured.

Of the eight cases from the 1924 series, three were reported at that time as cured, four as improved, and one showed no change. The first three have remained well, and none has suffered a remission. But what is still more gratifying, this follow-up study reveals that the other five are now well, after an average elapsed time of seven years. It seems fair to assume that most, if not all, of the more recent group, designated now as "chronic," will completely recover also.

HISTORY OF TWO CASES

CASE 1.—The history of Mrs. M. D., considered only improved at the time of discharge seven years ago, is instructive. Because of certain interesting features her history up to 1924 was reported in detail in "Endocrinology,"[5] and only the briefest summary is presented here, with a record of her present status.

When first seen in July 1922, aet. forty-five, she gave a history which indicated an onset of thyrotoxicosis in 1915, although thyroid enlargement was not observed until 1917. Her symptoms increased until March 1922, at which time she had lost forty pounds. By May she had to go to bed because of weakness and vomiting. Christian Science leanings inhibited her from receiving continuous medical attention. In July 1922 she weighed 110 pounds, had a large, soft, vascular thyroid, exophthalmus, marked tremor, extreme weakness, and a pulse rate of 132. At that time she presented the most extreme picture of thyrotoxicosis I have ever seen, short of terminal thyroid crises. A determination of the basal metabolic rate gave the result of plus 112 per cent. Because of her extreme weakness, tremor and nervousness, this was only an approximation, but not far from correct, as one month later, when she was considerably improved, the rate was plus 80 per cent and remained at this level for yet another month. She remained in the hospital for two months and in bed for six months, receiving symptomatic medication and weekly roentgen irradiations with gradual improvement which continued for twenty months, with recrudescences at nine and seventeen months, the metabolic rate in these reaching as high as plus 40 per cent.

In March 1924 her metabolic rate was plus eight per cent, but she still had tremor, easy fatigability and exophthalmus, and showed signs of congestive heart failure.

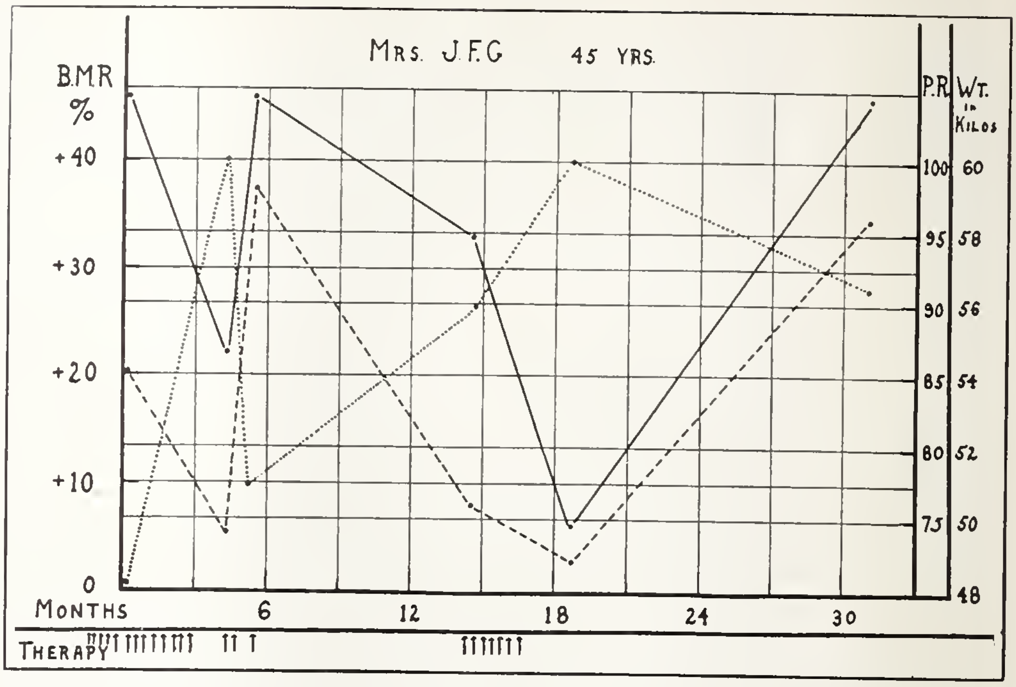

Fig. 1.—Course for thirty-one months of a thyrotoxic patient believed to have a nodular goiter. Solid line, basal metabolic rate; broken line, pulse rate; dotted line, weight. Arrows in row marked "Therapy" indicate x-ray treatments.

When seen in January 1931 she presented the picture of a perfectly healthy woman of fifty-four years, pulse rate 68, basal metabolic rate minus two per cent, weight 148 pounds, and without subjective or objective manifestations of thyrotoxicosis. Her feet no longer swelled, physical examination, electrocardiogram, and teleroentgenogram revealed no cardiac pathology.

Case 2.—One other case history is given here for two reasons: first, the patient was diagnosed as having a toxic adenoma; and secondly, hers is the case in which roentgen irradiation and all other nonsurgical treatment was considered a failure.

Mrs. J. F. B., housewife, forty-five years of age, was first seen in September 1921, when she gave a history of nervousness and weakness beginning in January of that year. Her basal metabolic rate was plus 46 per cent at this time and she presented manifestations of thyrotoxicosis in keeping with this rate. The thyroid was only slightly enlarged, firm, and thought to be nodular.

She had lived in the endemic goiter district of the Pacific Northwest from the age of thirteen until just prior to coming under our observation. She stated that "her whole family had large thyroids." This history, perhaps more than the physical findings, led to a diagnosis of toxic nodular goiter rather than Graves' disease, although there were none of the classical eye signs present.

Of importance in her history was her statement that in 1910 a physician was consulted in Spokane because of palpitation. He gave bromids and told her he wanted to take an x-ray picture of her throat. Also early in 1921 another physician told her that her blood pressure was 190.

Her subsequent course for two and one-half years, as measured by objective methods, is shown in Fig. 1. At one examination there was detected a cardiac irregularity which the electrocardiogram revealed was due to progressive heart block in which every sixth or seventh beat was blocked. For nine months in 1921 there was suppression of menses, not due to pregnancy.

When seen for a follow-up examination on March 31, 1931, she stated that she had been feeling fine, was not nervous, and had no palpitation, although these symptoms persisted for three or four years. She does not get tired now and can do things that she had been unable to do for years. Her metabolic rate was plus seven per cent, pulse rate 76 to 80, and blood pressure 180/80. One ectopic beat was noted and she showed other mild signs of cardiovascular disease which accompany hypertension.

This patient, now at the age of fifty-five years, is in very good health though she was diagnosed ten years ago as having a toxic nodular goiter. Either this type is as amenable to roentgen irradiation as the hyperplastic gland of Graves' disease, or else this distinction does not exist. If she had now a nodular goiter I might be led to conclude that she had developed acute Graves' disease coincidental to a nontoxic goiter. It is possible that the customary distinction between Graves' disease and toxic nodular goiter is unjustified, although in the majority of cases it is a useful classification for therapeutic purposes since the latter type of case seems best treated by thyroidectomy, and it is in this type of patient that surgery yields brilliant and permanent results, which cannot be said for Graves' disease. Roentgen irradiation was used in this patient who was believed to have had a toxic nodular goiter, as have had similar patients where surgery was refused or contraindicated, yet these are exceptions, for as a rule I prefer surgery for the typical case of nodular toxic goiter.

In conclusion I wish to point out that none of the four patients classed as "chronic" had adequate roentgen irradiation as I have defined it. This fact is partially evident from the table, but becomes better understood by study of their individual case histories where the manner of their treatment is revealed more specifically. If this

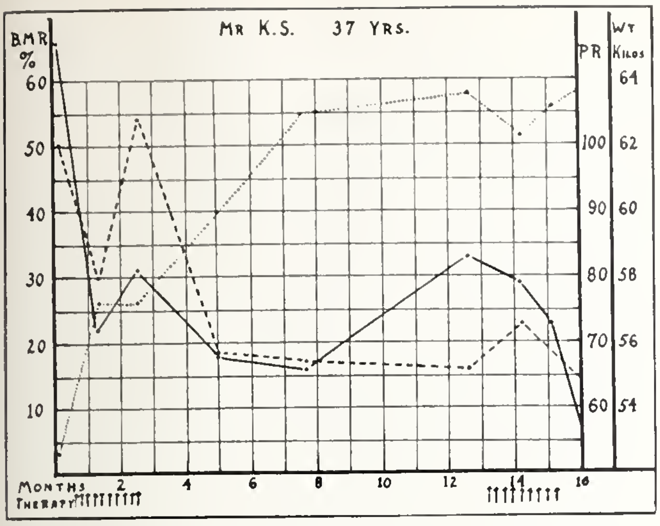

Fig. 2.—Course for sixteen months of a man with classical Graves' disease. Solid, broken and dotted lines, and arrows have same significance as in Figure 1.

study has shown that thyrotoxic patients who received roentgen irradiation get well and remain well, it also reveals that adequate dosage is essential to success. While insisting that radiation therapy be carried out by skilled experts, I also insist that the management of the patient remain in the hands of an internist or the patient's family physician. If credit is to redound to this form of treatment the patients sent to the roentgenologist must be correctly diagnosed, wisely selected and properly handled with respect to symptomatic relief and complications if there be any.

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DISCUSSION

William J. Kerr, M. D. (University of California Hospital, San Francisco).—Doctor Read has brought up a subject which has been of very great interest to me now for several years. It has been almost impossible to bring together the various groups who are interested in the treatment of thyroid disease, as each one feels that his own particular method of treatment surpasses any of the others.

There is no doubt that in selected cases medical treatment alone with rest, diet, and iodin will give very satisfactory results. X-ray treatment alone is very beneficial in a considerable number of cases. The results of surgical removal are very much quicker and more spectacular, but are not necessarily permanent. Furthermore, in the hands of the average surgeon the mortality is still extraordinarily high, whereas with the nonsurgical methods of treatment the mortality is practically nil although there may be prolonged disability and the life of the patient may be shortened if treatment is not entirely successful. It is my opinion that x-ray treatment, combined with other measures, and especially with very small doses of iodin (one to two drops of Lugol's solution a day over a long period of time), is about as satisfactory as surgical treatment.

We are making a study of patients suffering from thyrotoxicosis and are trying to see all patients who present themselves for treatment and to follow these for a long period of time under various methods of treatment. We are also trying to see personally the patients who have been operated upon during the past years. On our committee we have the departments of pathology, surgery, roentgenology, endocrinology, medicine, and pediatrics represented. It is too early, after a period of over a year, to say what the final conclusions are going to be. We expect to continue this study for many years. However, there are some suggestions that there may be a group of patients where they may be found to respond equally well to any of the so-called standard methods of treatment and there may be another group where no satisfactory results will be obtained with any of these methods. We are all familiar with the occasional case where adequate surgical removal has apparently been carried out and where in succeeding years the part of the gland remaining will become enlarged and active again. In some patients it may be necessary to remove portions of the gland three or four times. Some may say that this is because of inadequate removal in the beginning, but this opinion is probably incorrect.

Doctor Read should be commended on his follow-up studies on his patients and for his comments about adequate dosage. The results of roentgen-ray treatment in thyroid disease are very much better now than they were a few years ago because of improved technique.

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William E. Costolow, M. D. (1407 South Hope Street, Los Angeles).—Thyrotoxicosis, or hyperthyroidism, being a disease of questionable origin, unfortunately, does not have a specific treatment or cure.

Surgery and radiation are both empiric methods of treatment used to destroy the hyperplastic glandular structure, the latter being used with the idea of decreasing the secretory action of the cells in the gland. Both are really mechanical methods of treatment, and one is as logical as the other. Experience has shown that amelioration of symptoms and objective improvement have occurred following each method of treatment. Failures have also occurred following each method of treatment. Reliable statistics show that both methods have about the same percentage of cures, 65 to 70 per cent.

Improvement in the percentage of radiation cures was brought about in the past few years by the improvement in radiation technique. Higher voltages have been used, with heavier filtration, insuring adequate depth dosage throughout the thyroid tissue. In our experience it has been necessary to give somewhat larger total dosages than those outlined by Doctor Read, in order to secure permanent results. Some patients require quite prolonged irradiation, repeated at intervals over six months or one year. It is often two or three months before any beneficial effects appear following radiation.

In view of the present-day evidence of an increasing percentage of reliable radiation cures, it is certainly justifiable to advise radiation in properly selected thyrotoxic cases. Should radiation fail, surgery may still be carried out, as the surgical risk is not increased, but may even be decreased, because the metabolic rate and toxic symptoms may be lessened.

The advice that radiation treatments should be skillfully given is important, as is also the idea that during treatment the skillful management of the internist is indispensable.

We believe Doctor Read's finding, that some of his patients originally reported as only "improved" but not completely cured, and found to be completely cured after an average elapsed time of seven years, is rather a common observation in irradiated cases of thyrotoxicosis. We have observed a number of similar cases in our clinic.

Apparently none of the four patients in Doctor Read's table classed as "chronic" received adequate roentgen dosage. As all of these patients showed improvement, additional dosage would probably have produced permanent relief. One patient who showed a reduction in metabolism from plus 54 to plus 10 had received only 1140 r and was only under observation one year. Another patient was reduced from plus 55 to plus 27, although she only received a total of 800 r, which is usually an entirely inadequate total dosage.

Doctor Read's paper again demonstrates clearly and very scientifically that thyrotoxic patients who receive adequate radiation dosage do get well and remain well.

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John Hunt Shephard, M. D. (Medico-Dental Building, San Jose).—It is from such reports as Doctor Read has given us, based on years of careful observation, that medical knowledge is increased.

Patients afflicted with Graves' disease have returned to health after receiving most varied kinds of treatment or no treatment at all, and therefore it becomes most difficult to evaluate properly any form of treatment unless the response to it is prompt and definite.

I cannot become enthusiastic over irradiation in thyrotoxicosis when one patient returns to health after receiving a dosage of but 200 r to each lobe of the thyroid gland while another will receive 4000 r, or more, over a period of many weeks or months with little or no abatement of symptoms. Although irradiation in Graves' disease has been used for many years, and we have heard a great deal about "adequate dosage," we have been given no definite information as to what is adequate.

In California and Western Medicine, July 1925, I wrote " . . . it is irrational to destroy a portion of any factor to curtail its output . . . ," but when we do a subtotal thyroidectomy, leaving glandular tissue equivalent in volume to one-fourth the amount of a normal thyroid gland, at least 75 per cent of our thyrotoxic patients return to normal health within six months, and of those upon whom we operate within two months of the onset of their symptoms, the percentage of cures is higher and the time required for complete relief of symptom is shorter.

Those favoring nonsurgical treatment of thyrotoxicosis seem to keep before their minds the so-called surgical fatalities and postoperative myxedema and tetany. A careful study of the records of these surgical failures show that the vast majority are analogous to the records of patients with appendicitis when they were given the benefit of four or five days' treatment before operation, and though we all have seen patients recover from an attack of appendicitis under nonsurgical treatment and occasionally have seen a patient die following an early simple appendectomy, most of us agree that early surgical intervention is the proper procedure.

As I wrote in 1925, "I look forward to the time when thyroidectomy will not be the treatment for this disease, . . . " but in the light of our present knowledge greater success is obtained by a properly performed thyroidectomy than by any other treatment.

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Doctor Read (Closing).—It seems quite fitting that an internist, a roentgenologist, and a surgeon should discuss this paper for, as Doctor Costolow reminds us, this is a disease of questionable or unknown etiology for which there is no specific treatment, and its proper handling often requires the coöperation of several specialists. The plan of study outlined by Doctor Kerr should broaden the viewpoint of every physician who participates in the conference long enough to obtain late follow-up data. Doctor Kerr intimates that they are demonstrating that the same is true of thyrotoxicosis that is true of almost every other disease, namely, there are some patients who recover with any or no treatment, and at the other extreme there are a few which resist every form of therapy. A very similar viewpoint was expressed upon this subject by me in 1926 (February) in the *American Journal of the Medical Sciences.*

I am grateful to Doctor Costolow for emphasizing again that beneficial results may not follow until two or three months after institution of treatment, and that it is necessary in some patients to repeat the treatments in six to twelve months. He has pointed out the tendency toward using heavier dosage, which is the crux of the matter in successful irradiation for thyrotoxicosis. What constitutes adequate dosage in any given case is difficult to determine, but we have progressed to the point where we are sure a patient has not been adequately treated until he has been given much heavier dosage than it has been customary in the past. We cannot, therefore, enlighten Doctor Shepard as to what constitutes "adequate dosage" and we are as much in the dark as to what constitutes "a properly performed thyroidectomy." Many such operations which seemed properly performed have not been attended by the anticipated results.

CINCHOPHEN ADMINISTRATION—JAUNDICE AS AN UNTOWARD EFFECT*

REPORT OF CASES

By Lawrence Parsons, M. D.
and
Warren G. Harding, 2nd, M. D.
Los Angeles

Discussion *by John V. Barrow, M. D., Los Angeles; Newton Evans, M. D., Los Angeles; William J. Kerr, M. D., San Francisco.*

Following the introduction of cinchophen into materia medica by Nicolaier and Dohrn[1] in 1908, its use became widespread owing to its remarkable pain-relieving properties in arthritic and neuritic conditions. For fifteen years its reputation was unassailed, except by an occasional report of a minor toxic manifestation. However, Worster-Drought[2] in 1923 reported a case of severe jaundice following the ingestion of atophan. Cabot[3] in 1925 described a case of fatal poisoning by a preparation (weldona) containing cinchophen. The necropsy showed an extensive parenchymatous degeneration of the liver. Since the appearance of Cabot's report a number (thirty-two) of fatal cases of cinchophen poisoning have appeared in the literature. Postmortem examination of these cases has invariably demonstrated severe liver damage characterized by widespread necrosis of the hepatic cells, round cell infiltration and marked diminution in the size of the organ ("yellow atrophy").

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THE PATHOGENESIS OF JAUNDICE IN CINCHOPHEN POISONING

The pharmacologic action of cinchophen upon the liver has been shown by Brugsch and Horsters[4] to be due primarily to direct stimulation of the polygonal hepatic cells. The quantity of bile excreted was shown to be considerably increased. It is a well-established toxicologic principle that poisons, which in minimal doses stimulate, paralyze in maximal doses. A preliminary report of work done by Churchill and Van Wagoner[5] seems to confirm this principle in cinchophen intoxication. They found areas of acute necrosis in the livers of dogs killed by large doses of cinchophen.

It is generally accepted at present that the bile pigments are formed by the reticulo-endothelial system[6] and are excreted into the biliary passages by the activity of the polygonal hepatic cells. In hepatic necrosis the jaundice results from an inability of the polygonal cells to function in this capacity of bile excretion.[7] In cinchophen poisoning the degree of hepatic necrosis varies; consequently there may result varying degrees of jaundice, depending upon the extent of the lesion in the liver. Fortunately not every case develops to the degree of icterus gravis.

SYMPTOMATOLOGY AND DIAGNOSIS

A diverse symptomatology due to cinchophen intoxication has been described. We[8] have previously classified these manifestations as follows:

"1. Cutaneous manifestations, such as pruritus, angioneurotic edema, urticaria, macular and papular rashes, first reported by Phillips[9] in 1913;

"2. Anaphylactoid reactions characterized by neurocirculatory disturbances associated with rapid pulse and lowered blood pressure following the ingestion of single doses of cinchophen, as mentioned by Scully[10] in 1924;

"3. Gastro-intestinal disturbances including simple aphthous ulcers in the mouth, pyrosis, nausea, vomiting, and diarrhea, reported by Schroeder[11] in 1922; and

"4. Liver involvement as indicated by the appearance of jaundice, first noted by Worster-Drought[2] in 1923."

The clinical diagnosis of this entity, following the appearance of jaundice, is not difficult. A history of the taking of cinchophen followed by the disappearance of pain associated with the onset of jaundice is usually obtained. The physical examination reveals jaundice, the degree of which varies with the severity of the liver damage. In the early stage the liver may be slightly enlarged and tender, but later shows a progressive diminution in size. This may be objectively demonstrated by a flat radiographic plate of the abdomen, following oxyperitoneum. In severe cases the patient is frequently in coma. Laboratory examinations frequently show albumin, casts, and bile in the urine. Tyrosin and leucin crystals may be present in severe cases. The icteric index of the blood serum is increased to as much as 200 units (normal 4-7). Many cases show a moderate secondary anemia. Space does not permit a discussion of the differential diagnosis of this condition from jaundice due to other causes.

REPORT OF CASES

Case 1.[†]—Mrs. K. H., white, age fifty, was seen by Dr. Caroline Leete on June 3, 1931. In January, 1931, the patient complained of arthritis of the right knee. After a variety of ineffectual treatments, she began in May to take Renton's Hydrocin Tablets.[12] She stated she took eight tablets daily for six days and then five tablets daily, until she had consumed a total of sixty-six tablets. The total amount of cinchophen is, hence, about 330 grains.[12] After taking forty tablets she began to have anorexia, epigastric distress, and nausea. She noticed jaundice after taking sixty-six tablets and discontinued the use of the drug. Physical examination on June 3, 1931, showed severe icterus. The liver was not reduced in size. The examination was otherwise negative. The blood chemistry was normal except for an icteric index of 150. Urine examination showed albumin plus with many hyalin and granular casts, and bile two plus. She was placed on a high carbohydrate diet and put to bed for three weeks. One month later her recovery was practically complete.

* * *

Case 2.[‡]—Mrs. V. A. M., white, age forty-four, was seen by Dr. J. M. Lacey on June 23, 1931. The patient had been taking cinchophen for three weeks, and had developed severe urticaria on June 20, 1931. At the time of the examination she was jaundiced and had a slight fever. She was sent to the hospital and intravenous (10 per cent glucose in saline) injections were given. Alkalies were administered by mouth. Severe vomiting developed but disappeared in two days. The icterus gradually diminished and complete recovery had taken place in one month.

* * *

Case 3.[‡]—Mrs. A. S. L., white, age forty-eight, was seen by Doctor Lacey in May, 1930. She had taken a large amount of atophan because of a maxillary sinusitis. The onset of the attack was characterized by swelling of the hands and feet, followed by generalized urticaria. There had been severe nausea and vomiting associated with the attacks. After the subsidence of the urticaria, which persisted for five days, moderately severe jaundice developed. A severe secondary anemia was associated with the jaundice. She recovered gradually and at present is apparently well.

* * *

Case 4.[§]—Mrs. X., white, age fifty-five, was seen by Dr. J. J. Hilton on December 12, 1930. In September 1930 the patient had taken three Renton's Hydrocin Tablets daily, until a total of fifty tablets had been used for an asserted increase in the uric acid content of her blood as manifested by a small eczematoid patch in the right popliteal space. Three weeks following the completion of the treatment, she noticed burning in throat, anorexia, and general irritability. One week later marked malaise and vomiting appeared. On December 1, 1931, she began to notice jaundice, which deepened progressively. There was an associated severe pain localized to the lumbar region, with radiation along the sciatic nerve. Her past medical history was irrelevant. For the past five years she had limited the carbohydrate intake in her diet in order to control her weight. The physical examination revealed a markedly jaundiced, somewhat stuporous woman with a slightly enlarged liver. The remaining physical findings were normal. The Van den Bergh was positive direct with an indirect reading of 27.75 units. The icterus index was 112. She was treated by supportive measures, including the frequent intravenous administration of glucose solution. The degree of jaundice increased, and on December 17 she lapsed into coma. Death occurred on the following day. A postmortem examination was refused.

[†] We are indebted to Doctor Leete for permission to publish this case report.

[‡] We are indebted to Doctor Lacey for permission to publish these case reports.

[§] We are indebted to Doctor Hilton for permission to publish this case report.

TREATMENT

At present there is no specific treatment for cinchophen poisoning. It is well established, however, that a liver which is depleted of its glycogen is especially susceptible to the action of poisons. Consequently, the empiric use of intravenous glucose and a high carbohydrate diet appears justified. The administration of alkalies by mouth to combat the acidosis has also been advocated. Bismuth or opiates may be used to control the nausea and vomiting. Further treatment should consist of symptomatic and supportive measures.

SUMMARY

1. Thirty-two fatalities due to cinchophen have appeared in the literature.
2. The essential pathology of this condition is a parenchymatous degeneration of the liver.
3. Cinchophen exerts a direct stimulating action on the hepatic polygonal cells.
4. The clinical syndrome of cinchophen poisoning is described.
5. Four cases are reported of cinchophen poisoning showing icterus, one of which was fatal.

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DISCUSSION

John V. Barrow, M. D. (1930 Wilshire Boulevard, Los Angeles).—The foregoing paper is timely in that so much is being written now and so much is being taken for granted regarding the poisoning induced by cinchoninic acid and its derivatives.

Jaundice is given as the major index of saturation, or idiosyncrasy, of this drug. Any symptom or sign guarding against an overdose or allergic idiosyncrasy is of great value to the clinician. Doctor Parsons and Doctor Harding have called attention to this phase admirably. To my mind, they have overemphasized the danger of poisoning in such a way that it becomes a matter of question whether legal complications are not apt to follow any clinical peculiarity attendant on its use. The ambulance chaser may find it more profitable to leave the automobile accident and read our medical journals in order to get his lead for future prosecutions. Much of the work quoted is mere statement and has not been proven by physiology, pharmacology, and histology. The statement is made that the excretion of the bile pigments is interfered with, particularly. In such an event the icterus index, which deals with these pigments, should be far more important as a clinical guide than gross jaundice. The symptomatology ascribed to this drug has also been ascribed in the days of Adami, Opie, and Osler to toxemia from general infections, malaria, syphilis, bacterial intestinal products, and wrongly split food products. The fact that many of these cases are being treated for a chronic infectious metabolic disorder shows that they are susceptible to allergic reactions in which the liver is undoubtedly involved. No effort has been made to prove the liver function normal at the time the treatment was begun.

In the early part of this century Sir William Osler called attention to the fact that the French were reporting thirteen varieties of cirrhosis of the liver from malarial infection alone. They might as easily have claimed that this liver disturbance was induced by the administration of quinin. Any drug may exhibit idiosyncrasies in some patients, and may induce pathologic changes much more easily in an organ already diseased. One of the drugs mentioned in Doctor Parson's paper is so proprietary that its composition may well be considered unknown to us. I hold no brief for such a drug. Its consideration should certainly be turned over to the health authorities. The treatment of the condition is undoubtedly the treatment of the patient. The underlying causes of allergy are the first to be investigated and the first to be treated.

The third statement in the summary, "Cinchophen exerts a direct stimulating action on the hepatic polygonal cells," is helpful, for if this drug does stimulate the hepatic polygonal cells, then its usefulness is assured because smaller doses may be used to great advantage and toxic results avoided. The authors are to be complimented on the title calling attention to a symptom which can be still further foretold by the routine use of known liver-function tests.

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Newton Evans, M. D. (White Memorial Hospital, Los Angeles).—This clear and concise discussion of the most notable symptoms appearing in the victims of cinchophen poisoning is a valuable contribution. It should help in the accumulation of knowledge relative to this rare but often fatal sequel of the use of so valuable a therapeutic chemical compound.

The high mortality of these toxic attacks is suggested by the fact that in the present reported list one case in four was fatal. I understand the authors have previously reported four fatal cases and in addition have adequate records of seven more, making a total of fourteen originally collected cases, of which group eleven patients have died. The fact that of fourteen patients showing severe intoxications with jaundice only three have recovered indicates a very high percentage of mortality in those patients who have developed a severe jaundice.

The fact that the drug has been used extensively for many years and that the occurrence of severe poisoning is so unusual that it was not until 1925 that a fatal intoxication was reported, makes it appear that there must be some factors in the etiology of the attacks which are extremely variable. We naturally assume some unknown personal idiosyncrasy.

The fact of the relative infrequency of toxic sequelae, however, does not negative the reality of their existence. One can recall analogous relations in the use of other useful therapeutic agents. That of the newer arsenicals so commonly used in the treatment of syphilis and other similar infections are particularly apropos. The occurrence of aplastic anemia and related blood dyscrasias as well as cases of severe hepatic necroses in numerous instances, particularly after the use of neosalvarsan, can be regarded as indicating some type of peculiar susceptibility as contrasted to the great majority who have no such toxic manifestations.

Two practical lessons would appear obvious. First, the need of great caution and watchfulness in the administration of the drug by the physician, and second, the need of steps to minimize the widespread use of this powerful agent in the form of self-drugging through the agency of proprietaries and patent medicines.

* * *

William J. Kerr, M. D. (University of California Medical School, San Francisco).—This paper on the subject of jaundice as an untoward effect following the administration of cinchophen is very timely. During the last four years a large number of cases have been reported in the literature where death resulted from the administration of cinchophen or compounds containing cinchophen. To date there have been upward of sixty such cases reported and, judging from discussions in various parts of the country, it may be assumed that there are many times this number of fatal cases as yet not reported in the literature. We have had three such cases in our Medical School during the last year, and there have been others where jaundice was probably on this basis.

The type of lesion which is usually seen in these patients represents a toxic cirrhosis with widespread necrosis of the hepatic cells. If the patient survives for a time there may be very active regeneration and then new tissue of the liver may be able to function, as far as carbohydrate metabolism is concerned; but new bile capillaries may not be connected with the bile ducts so that a secondary type of jaundice may result.

It is very difficult to detect those patients who would not be harmed by the administration of cinchophen. There has been some suggestion from our own experience that those patients who have had symptoms of chronic disease of the biliary tract or liver may be more susceptible to the drug. We have seen patients who developed marked evidence of cinchophen poisoning, resulting in death, from very small doses of cinchophen purchased at the corner drug store under various trade names. In one case it appeared that the patient had not taken more than thirty grains of cinchophen as a total dose. The widespread use of cinchophen and its compounds by the lay public as a result of extensive advertising in lay journals and newspapers offers a hazard to the public health which the medical profession and the state and government authorities should not tolerate. Certain restrictions are placed upon the sale of other dangerous drugs, and it would seem that it is high time that something should be done about the use of cinchophen. There is no doubt that cinchophen is a very valuable drug in controlling certain types of pain and is far superior to neocinchophen in this respect, but where the use of a drug is attended with so much risk it should be impossible for the layman to purchase this drug over the counter. Even in the hands of physicians who should be expected to know something about its use and its dangers there would, no doubt, be a certain number of fatalities. So far we have had no reports of serious damage to the liver from neocinchophen, but it should be more carefully studied with this possibility in mind. It seems to me that the California Medical Association, in conjunction with the State Board of Health and other state and national agencies, could do something about the control of the use of this drug.

TYPHOID FEVER IN SAN FRANCISCO IN 1931 —APPARENTLY DUE TO SHELLFISH[*]

By J. C. Geiger, M. D.
and
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Typhoid fever, although known to be a definitely preventable communicable disease, continues to occur, even in metropolitan areas, with a frequency altogether too high. Based on records of reported cases and deaths over a period of ten years, the disease in San Francisco has an expected yearly incidence of about thirty-five reported cases and eleven recorded deaths.

TABLE I INTERPRETATIONS

It is noteworthy that, in the series listed in Table 1, only in two instances, in 1928 and in 1931, are the numbers of reported cases in excess of forty for the year. The increased incidence in 1928 was due to an outbreak which was traced to pasteurized milk contaminated by a bacillus carrier operating a faulty capping machine.[†] Since the increased incidence in 1931 was unusual in certain respects, the data given in Table 2 are presented.

Table 1.—*Listing the Reported Cases and Deaths Over the Decade 1922-1931 Inclusive*

Year	Typhoid Cases Reported	Deaths
1922	25	12
1923	36	17
1924	28	14
1925	39	12
1926	38	14
1927	40	10
1928	76	20
1929	34	6
1930	38	8
1931	68	9
Yearly average (excepting years 1928 and 1931)	35	11

TABLE 2 INTERPRETATIONS

During the past ten years, cases of typhoid fever have been reported in San Francisco in every month of the year, and, indeed, in only four separate and nonconsecutive months were there no cases recorded. The expected incidence might be described as of the low-level, year-round type. Weekly reports through July and August showed slight increase over the normal expectancy. During the month of September, however, there was a definite and marked elevation in the epidemic index. This rather sharp rise was of short duration, but cases continued to be reported, while with less frequency, it is true, nevertheless on through October, November, December, and even January.

The week showing the maximum number of cases reported (twelve) was that ending September 19; it would be expected then that the dates of onset of a comparable maximum number

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[*] From the Department of Public Health, City and County of San Francisco.

[†] "Typhoid Fever Epidemic Occurring During the Summer of 1928," W. C. Hassler, M. D., J. A. P. H. A., February, 1930, 20:2, 137-146.

TABLE 2.—*Supplementary Report on Typhoid Fever Cases.*
For the period July 1, 1931— January 23, 1932 inclusive.

Week Ending	Onset Date Total for Week	Normal Expectancy	Cases Reported		Trend	Epidemic Index %
			Local	Nonlocal		
June 13	1	....	....	....	....	......
July 4	4	0	0	0	Normal	......
July 11	3	1	1	0	Normal	100
July 18	3	1	0	3	Low	......
July 25	0	1	1	1	Normal	100
Aug. 1	0	1	0	0	Low	....
Aug. 8	1	1	0	0	Low	......
Aug. 15	4	1	2	0	High	200
Aug. 22	3	0	1	1	High	......
Aug. 29	3	1	2	0	High	200
Sept. 5	10	1	2	0	High	200
Sept. 12	2	1	3	0	High	300
Sept. 19	2	1	12	0	High	1200
Sept. 26	2	1	4	1	High	400
Oct. 3	1	1	1	0	Normal	100
Oct. 10	0	1	0	0	Low	......
Oct. 17	1	0	0	0	Normal	......
Oct. 24	2	0	1	0	High	......
Oct. 31	1	1	2	1	High	200
Nov. 7	2	1	0	0	Low	......
Nov. 14	2	1	4	0	High	400
Nov. 21	0	1	3	0	High	300
Nov. 28	0	1	0	0	Low	......
Dec. 5	3	1	1	0	Normal	100
Dec. 12	3	1	0	0	Low	......
Dec. 19	0	1	1	0	Normal	100
Dec. 26	1	0	1	0	High	.....
Jan. 2	0	0	3	0	High	......
Jan. 9	1	1	1	0	Normal	100
Jan. 16	1	1	0	1	Low	......
Jan. 23	0	0	2	0	High	......
	56		48	8		

of cases would antedate this by one to two weeks. The analysis of the cases showed that the week ending September 5 did see the onset of the disease in a larger group of individuals (ten) than any other similar period. Epidemiologic reasoning would conclude therefrom that the infection in this group occurred from two to three weeks previously, that is, during the middle of August or approximately one month before the cases were reported and investigated.

ANALYSIS OF ETIOLOGIC FACTORS

The analyses of individual cases in September revealed the interesting possibility that the source of infection in not a few cases might have been in raw shellfish, especially oysters and clams. On the basis of these epidemiologic findings there were initiated investigations into the sources of supply, methods of handling and conditions surrounding the sale and serving of raw shellfish in San Francisco. Concurrently, of course, the water and milk supplies were carefully checked, and in each reported case of typhoid fever a diligent search was made for bacillus carriers.

San Francisco, comprising an area of 46.7 square miles on the tip of the peninsula, with a population of 650,000, has a water supply mainly of surface origin, safeguarded by chlorination, and a milk supply of which 97.85 per cent is grade "A" pasteurized and the remaining 2.15 per cent is of certified and guaranteed grades. Sewage disposal is by direct outfall to San Francisco Bay, and all but a very small number of buildings, whose locations prohibit it, are connected with the sewage system.

At the time of the outbreak San Francisco was obtaining water from various sources: Crystal Springs reservoir (San Mateo County), Municipal and Sunset wells (San Francisco), Calaveras reservoir, Sunol wells, and East Bay Municipal Water District (Alameda County). All these supplies, save the Municipal wells, were adequately chlorinated before distribution in San Francisco. (The Municipal well water, supplying an area small in extent, has since been chlorinated.) During the summer months, with dry weather and low levels in the reservoirs, it is expected that the amount of chlorin added must be increased to maintain the same factor of safety. During the summer of 1931, while the city's water supply was not entirely satisfactory, the variations found on bacteriologic examination were irregular and inconstant and not of sufficient import, it was believed, to account for cases of typhoid fever. This was borne out by the distribution of the reported cases over the city, there being no coincidence between the areas supplied by certain reservoirs and the areas in which the cases were located. It might be stated here that in at least three cases of nonlocal origin the source of infection was possibly in water drunk from an open stream or spring or irrigation ditch, and in one case of local origin the possibility presented is that of water from a source used for irrigation purposes only, in one of San Francisco's parks.

Following the occurrence in 1928, in which a bacillus carrier operating a faulty capping machine in a local pasteurizing plant was responsible for a milk-borne outbreak of typhoid fever involving some sixty-two patients, with twelve deaths, milk handlers have been examined by the Department of Public Health, in an effort to uncover new carriers. The milk supply is regularly carefully checked before, during and after pasteurization. Irregularities had been remarkably few, and, here again, they were inconstant in their occurrence. The distribution of cases also was not that of milk routes, and there was the added factor that too many different plants were involved.

The investigation into the possibilities of carriers within the household, particularly with the occurrence of multiple cases, revealed several heretofore unknown carriers of *Bacillus typhosus*. Continued observation of these carriers and immunization of other members of the family not yet affected is, of course, to be carried out.

SHELLFISH INDUSTRY STUDIES

By far the most interesting points were found in the investigation into conditions within and surrounding the shellfish industry. The investigation comprised three studies: the oysters offered for sale at the counter, either in cocktails or to be taken home; the oyster shucker and conditions surrounding the handling of the bivalve after its removal from the bed and especially from the time it is removed from the shell until it is offered for sale; and the oyster beds supplying the San Francisco market. The methods used in these studies included bacteriologic examination of specimens as well as rigid inspection of the premises and methods of handling the shellfish.

Samples of oysters and clams were obtained on the open market from establishments serving cocktails at the counter, as early as September 10. Laboratory studies, based on the methods approved by the American Public Health Association and the United States Public Health Service, showed contamination to an extent considerably higher than regulations permit. In several instances the score was five hundred, indicating pollution of sufficient degree to cause growth of *Bacillus coli* in all tubes of all dilutions used. The examination of oysters and clams removed directly from the beds to the laboratory showed that there was contamination of the bivalves in the beds in several instances. In other cases, the specimens removed from the beds were within the accepted standards, but the shucked product, as offered for sale on the market, showed a higher contamination. Conditions surrounding the shucking and preparation of oysters for the retailer, in certain instances at least, were found to be such that this change of score could well be accounted for. Washings from jars used to transfer the shucked oysters from the wholesaler to the retailer were found to show high bacterial counts. It was also found that, while the unopened jars of quantities of oysters (100 to 200 per jar) were kept on ice, it was not infrequent that the stock immediately offered for sale was not properly chilled by being kept in a container surrounded by ice. The possibilities of contamination of the oyster at the time of shucking are great, not alone from the shells, utensils, and water, but, perhaps greatest, from the shucker himself, particularly should he be a bacillus carrier and unclean in his personal hygiene. The examination of oyster shuckers, including physical examination and bacteriologic cultures of the bodily discharges, is now carried out.

TYPHOID FEVER INCIDENCE IN SAN FRANCISCO IN 1931

It is intended in this brief discussion to call attention to the fact that typhoid fever in San Francisco during 1931 occurred with a frequency considerably above the expected incidence. Of some fifty-six cases with four deaths, forty-two were of local origin, and fourteen of nonlocal origin, epidemiologically. Of the total group, twenty-four, or 38 per cent, were in the age groups ten to twenty and twenty to thirty years, and males predominated over females in the ratio three to two. The use of raw shellfish was admitted by twenty of those affected, and this constituted the most frequent source of infection determined.

Investigations showed that the distribution of cases possibly did not implicate the water or milk supplies, and these conclusions were borne out by laboratory studies. A small number of cases were undoubtedly traceable to three carriers of *Bacillus typhosus* who were undiscovered before the 1931 series of cases.

The most fruitful studies, in uncovering real and potential sources of infection, were those made on oysters and clams. The studies made by the San Francisco Department of Public Health were confined, of course, to the city and county of San Francisco, with the exception of certain oyster and clam beds in adjacent counties in which the coöperation of the state and local departments of public health was afforded. While San Francisco Bay beds presented the most serious problem, as far as pollution and contamination are concerned, other oysters shipped into the city were not entirely satisfactory in certain instances, thus showing that San Francisco Bay beds are not the only offenders, and, too, that the shucking and handling of the bivalves probably play important rôles in the contamination of the product offered for sale. Through the activities of the Department many of these irregularities have been corrected, and a recurrence through the same channels is not expected. Certain beds in San Francisco Bay have been closed to the industry. It should be emphasized that there has been shown, on the part of the dealers in San Francisco, an excellent spirit of coöperation in their agreement to buy oysters and clams only from known reliable and approved sources.

THE PREVENTION OF TYPHOID FEVER IN CIVIL LIFE

In the control of typhoid fever preventive medicine and public health have accomplished only a part of that which is possible. The methods which have been so successful in reducing the morbidity and mortality rates in the armed forces of the greater nations are available for application to the civil population. The continual occurrence of this preventable disease, not only in sporadic cases but in outbreaks as well, challenges the public health official to overcome the barriers of indifference, ignorance and inadequate legislation. The enviable record of the United States Army, in which the incidence of typhoid fever is so low, and was so low during the World War that it is considered to be of minor importance, can be attained in civil groups, but only when there can be had the complete coöperation and earnest effort of the privately practicing physician, the public health minded laboratory worker, the sanitary engineer, and the health officer. There must be utilized, in addition to good concurrent epidemiology, health education, vaccination, modern sanitation, systematic search for and supervision over the bacillus carrier and rigid inspection and control over food establishments, particularly those serving or selling food to be eaten uncooked or without further preparation. The gap between what can be done and that which is actually accomplished in public health is wide, and we can go only as far as public opinion wants that we should go, but the goal is not unachievable.

Department of Public Health, 1095 Mission Street.

LEUKODERMA—ITS TREATMENT*

By H. C. L. LINDSAY, M. D.
Pasadena

DISCUSSION *by H. J. Templeton, M. D., Oakland; Irving R. Bancroft, M. D., Los Angeles; Harry E. Alderson, M. D., San Francisco.*

THE treatment of leukoderma or vitiligo requires not only a deposition of pigment in the areas of depigmentation, but it also requires a redistribution of pigment from hyperpigmented borders, so that the result will be an even distribution of the normal amount of cutaneous coloring. The effect of an added general coloring to a patient's skin, suffering from vitiligo, would result in a difference of color scale, as an artist would term it, with the depigmented areas a darker color, but relatively the same unless the coloring used be pitch-black. This point can be demonstrated by painting the area of a vitiligo skin with a transparent brown stain. The white areas will color brown, but the tan of the borders of lesions will be little short of black. Knowing well that the white areas are as white as they will ever be, it is possible to lessen the conspicuousness of this contrast with the surrounding skin color by bleaching the dark skin to match the white with dermatologic bleach. On the other hand, it is more difficult to tint the white areas to match the surrounding, somewhat more normal looking skin. Diluted butternut stain, such as is used for dyeing hair, is used by some patients. Others use grease paints of suitable tints, or special powders, to disguise their leukoderma.

INTRACTABLE NATURE OF LEUKODERMA

All methods of establishing a complete cure of leukoderma to date have been relatively unsatisfactory. Local methods are those most frequently employed to produce pigmentation in areas lacking color. Bouchi dana (psoralia corylifolia) in ointment form is that most used in India. A 10 per cent alcoholic solution of oil of bergamot, applied to depigmented areas, followed by raying of the parts by ultra-violet rays, as advocated by Berlocq, has met with favor in America. These treatments produce dilatation or congestion of the deep venous plexus of the skin which in some ways favor pigmentation.

The full effect of the action of certain rays upon cells or tissues, capable of becoming pigmented, is not perfectly understood. We know that ultra-violet rays, x-rays, radium rays, and complex sun's rays have the power of stimulating pigmentation, but this usually follows definite erythema of the parts. Light has a soothing effect on the nerves, but if the nerves of the skin be anesthetized and an exposure of it be made to ultra-violet rays, we are informed that no inflammatory reaction will take place, as might ordinarily be expected. Another point worth taking into consideration at this juncture is the chemical alteration in the tissues. This can be induced by the injection or the administration of such drugs as hematoporphyrin, sulphon methane, and acridin, which will cause the skin to burn from rays of the sun much more readily than it otherwise would; that is, these drugs induce photosensitivity. It is but reasonable to suppose that the reverse of photosensitivity can be induced by other drugs if we but knew them.

CHEMISTRY OF PIGMENT

The chemistry of pigment has been investigated by an examination of the pigment in hair, which does not apparently owe its coloring matter to any of the chemical constituents of blood. Hellmick believes, "pigment is a direct product of the epidermal cells, and is not a hematogenetic substance which has been conveyed to the epidermis by chromatophores, and that the nuclear substance is probably the mother substance of this pigment." Hooker has demonstrated the development of pigment in cells of the epidermis of frogs (ryma pipiens). The elaboration of pigment was observed in some of the epidermal cells, at first appearing as a mass of brown granules in the immediate vicinity of the nucleus. The pigment gradually spreads throughout the entire cell. After the elaboration of a considerable amount of pigment, these cells either actively or passively migrated to a position below the nonpigment-bearing cells.

It has been suggested that if the essential pathologic change lies within the restricted areas of the skin, it would be logical to endeavor to induce a change in the chemistry of the cell, possibly by proper doses of roentgen rays. There is no doubt in my mind but that a certain amount of pigment

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* Read before the Dermatology and Syphilology Section of the California Medical Association at the sixtieth annual session, San Francisco, April 27-30, 1931.

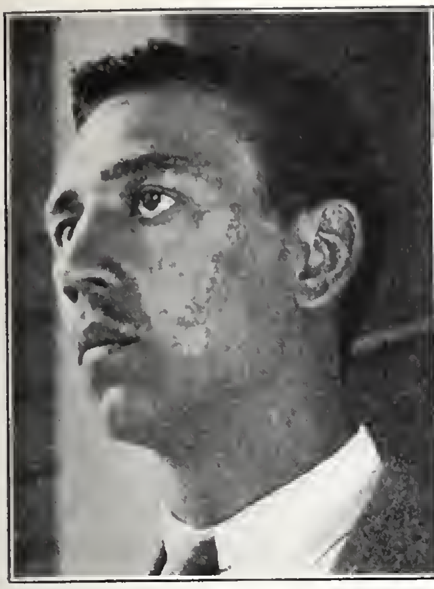

Fig. 1.—Severe recurrence of vitiligo after having been free of it for many months.

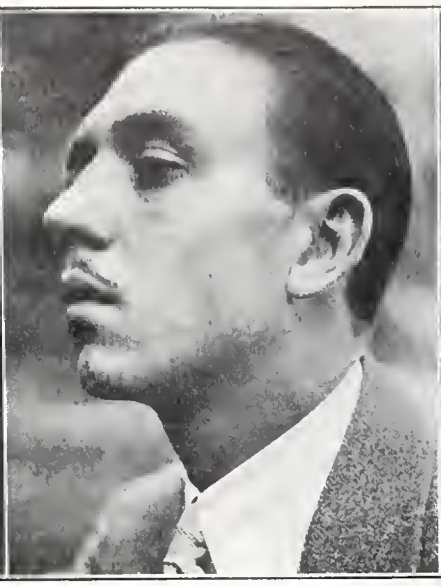

Fig. 2.—Result of three intravenous injections of 100 milligrams of gold and sodium thiosulphate, each dose.

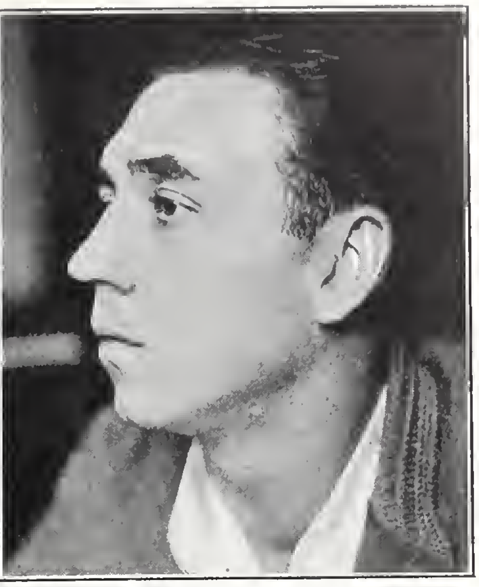

Fig. 3.—The ultimate result of a case of vitiligo which showed recurrence and responded again to gold therapy.

is produced in the outermost layers of the skin, and that possibly these pigmentary cells have the power to migrate to lower strata; otherwise we could not expect such rapid results as can be obtained by skin bleaches, which remove the most superficial layers of the stratum corneum. Ultra-violet rays are not the only rays which stimulate active pigmentation. The skin contains a great deal of cholesterol, which is easily activated by ultra-violet rays. Cholesterol is one of the few alcohols that will easily pass through the skin, and it is found in all animal fats, in bile, in blood, brain tissue, milk, nerve fibers, the liver, kidneys, and even the suprarenal bodies. Activated cholesterol, by virtue of its power to freely pass into the skin and circulation, suggests a medium by which cells may be activated.

ACTION OF CHOLESTEROL AND OTHER CHEMICALS

Does this activated cholesterol stimulate the cells, which have the power of producing pigment, to greater activity? Will other chemicals do it?

The impression that ultra-violet rays will not cause hemolysis during life does not coincide with the findings of the following experiment. I exposed the skin of an arm to ultra-violet rays administered by the water-cooled quartz lamp and used heavy contact pressure for one hour. Immediately after the seance, the skin of the treated part showed a definite yellow color, almost a regular tan. This could hardly be expected from melanoblasts or chromatophores in such short time, and I regard it as a result of hemolysis.

If rays of light be passed through a photographic plate or negative upon sensitized photographic paper, it will be found that wherever the negative is clear of coloring matter the sensitized paper will become rapidly darkened, but wherever the negative is darkened the sensitized paper (*i. e.,* the positive, underneath) will remain practically unchanged. By watching through the negative, as it is superimposed upon the positive, in a good light for a sufficient time, the whole area will appear practically black. If at this time the sensitized paper be "fixed" by "hyposolution," the areas underneath the dark parts of the negative will still be found lighter than the other parts of the positive. It appears to me that repigmentation in leukodermic skin follows in principle many things observed in photography. The biochemistry is too complex for explanation at present, but we do know that we must have repigmentation in the areas of depigmentation with a relative lessening of pigmentation in the hyperpigmented areas; in other words, an averaging of the pigmentation. This seems to be accomplished in some instances by the injection intravenously of gold sodium thiosulphate. Both hyposulphite of soda and gold are used in photography. The former as a "fixer" and the latter as a "toner." Repetition of circumstances which favor the development of leukoderma in an individual will often result in a recurrence of the condition. Thus I have had one patient develop vitiligo three different times, as follows: Each time it occurred during the first week of the swimming season, when the full blast of the sun's rays would meet no mitigating obstruction. This patient recovered the last time by the injection of three doses of gold and sodium thiosulphate intravenously. Recurrences are to be expected, but this is not always the case. It should be admitted that some patients respond slowly to treatment and some have delayed results, that is, no apparent results visible until further treatments seem useless; as in one instance, the patient had been given up as not amenable to the gold therapy, when a surprising improvement occurred. Unfortunately this type of treatment is not always of much benefit in cases which are not attributable to photosensitivity, although it has improved a few patients whose conditions were not traceable to definite causes. It is probable that the gold would, at least, benefit those cases associated with syphilis or tuberculosis, and I have found its best results in those who had symptoms of mild hyperthyroidism.

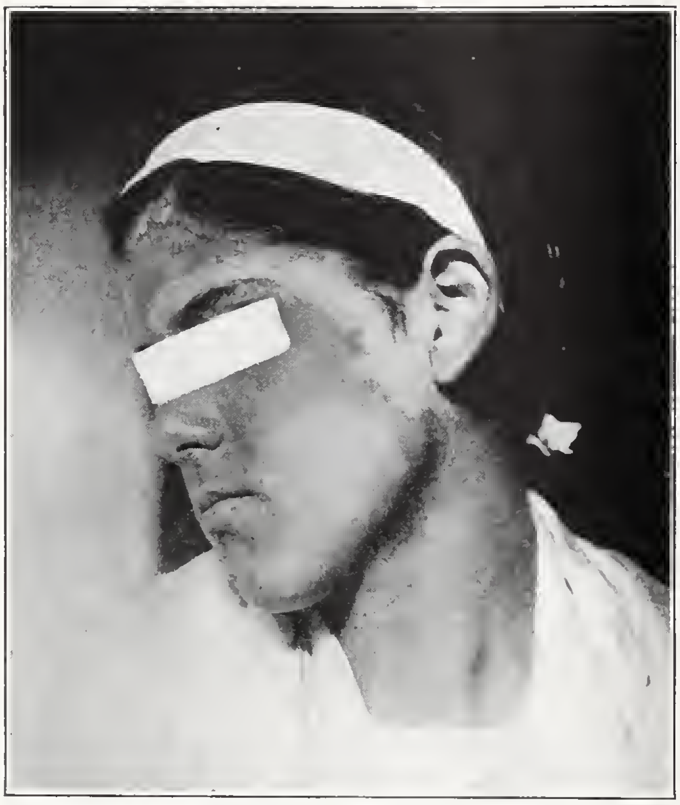

Fig. 4.—Recurrence of vitiligo in a case formerly improved by gold therapy.

DISTURBANCES OF METABOLISM

Metabolic disturbances are causative or associated with leukoderma. Among the conditions to be considered are: hyperthyroidism, Addison's disease, pregnancy, syphilis, especially syphilitic involvement of the vegetative nervous system, chronic intestinal infections, tuberculosis, and leprosy. It will give the biological chemists an immense amount of work to reconcile facts with their theories, but in all probability the cause of leukoderma will be found in disturbances which affect one or all of (*a*) some part of the nervous system, (*b*) the chemistry of the tissues in its relation to (*c*) rays of the sun or some other factor from without. Most of the diseases which are associated with leukoderma (aside from those already mentioned) are skin diseases of somewhat indeterminate origin, such as pityriasis rosea, alopecia areata, pityriasis lichenoides chronica, morphea, lichen planus (white spot disease), and psoriasis. Most of them have scales and some obscure nervous manifestations or idiosyncrasy toward rays of some sort, more especially x-rays. Thus pityriasis rosea only involves practically the covered parts of the body, and one good generalized artificial sun bath will cure many cases within a few days. On the other hand, a heavy dose of x-rays directed on the back between the shoulders will frequently clear a case of lichen planus (white spot disease). A similar dose of x-rays over the region of the parathyroids will sometimes clear a case of psoriasis for many weeks. Then, too, scaling skin diseases such as ringworm, pityriasis facialis, and pinta of fungus origin, occasionally show leukodermic areas. It is now believed that either the fungus, or a toxin from the fungus, enters the circulation and produces the so-called phytids. When examined by ultra-violet rays under a Wood's filter, these fungi are fluorescent. Tricophytids are considered, by some dermatologists, as due to allergy. Achromia parasitica is supposedly due to aspergillus. Dixon considered that pigmentation may be concerned with chemical changes in the skin which fluoresce under the same rays that cause erythema. It is a well known fact that "diabetics" sun-burn readily. Treatment of leukoderma where it complicates, or is caused by another disease, may clear up if the condition, other than the vitiligo, is treated. Thus, infections of the intestinal tract, *Entameba histolytica* and the organisms of bacillary dysentery, gas-forming organisms like *Bacillus lactis aërogenes* and *Bacillus acidi lactici,* which cause intestinal decomposition destroying catechol bases should, according to Acton, be treated by intestinal antiseptics. I am informed by Lieutenant Colonel A. W. Acton, C. I. E., I. M. S., director of the School of Tropical Medicine and Hygiene of Calcutta, that over 30 per cent of his leukoderma patients in India have some sort of defect in the gut. He has had over a thousand cases of leukoderma and believes that a great deal can be done to cure it, in that country, by the use of intestinal antiseptics. One of his favorite remedies for this purpose is liquor hydrargyri perchloridi, used internally.

SOME EAST INDIAN THERAPY

While many are not convinced that Bloch's theory of pigmentation is correct, still in India, native physicians, who follow the teachings of Ayurveda, recommend a diet free of fat, but consisting largely of chic pea. Chic pea contains a

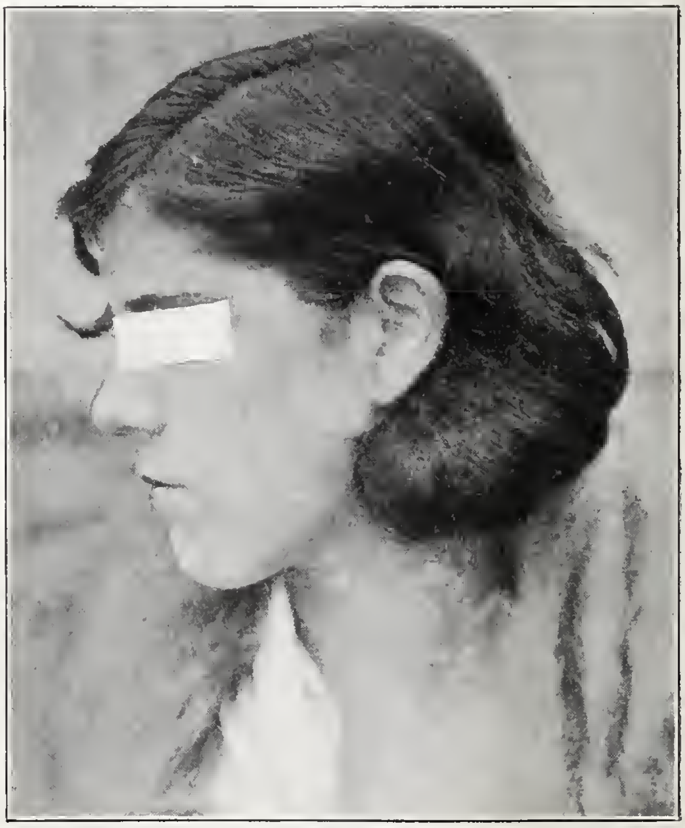

Fig. 5.—Definite improvement in a case of recurrent vitiligo by the readministration of gold and sodium thiosulphate intravenously.

large amount of the amino acid 3-4 dioxyphenylalanin, which Bloch calls "dopa." In short, they feed their patients "dopa" while they keep the intestinal tract antiseptic as far as possible. Owing to the fact that many cases in India show evidences of hyperadrenia, as evidenced by the insulin and adrenalin tests. Acton has used adrenalin treatment in an effort to depress the adrenal glands. Sometimes he uses adrenalin empirically where no *Entameba histolytica* can be demonstrated in the bowel.

P. Bhaskara Rau, L. M. P., Medical Officer, Local Fund Hospital, Narasapatam, Vizagapatam District, India, strongly advocates the following ointment to be applied locally:

℞ Orpiment	1 part
Psoralia corylifolia	4 parts

Both are to be finely powdered, mixed and made into a thick paste by the addition of sufficient cow's urine. This is applied freely, and it is reported to have cured some cases in a week. The remedy is irritating, sometimes causing blisters if too vigorously used.

Many local remedies such as chrysarobin, and even calamin lotion, have been blamed for an appearance of areas of leukoderma. Poison ivy (*Rhus toxicodendron*) is an offender in this respect, but I suspect many other plants, too. Avoidance of these things by a person subject to leukoderma would seem reasonable. However, I have found that a case of leukoderma affecting the skin about the anus cleared under chrysarobin administered in ointment form for the purpose of curing an intractable pruritus, complicated or possibly caused by epidermophyton. On the other hand, I have used calamin lotion, tinted with ichthyol to disguise spots, and have never noticed any untoward results.

INTRAVENOUS TREATMENT OF VITILIGO

Intravenous injections with soluble dyes have been tried out by Japanese dermatologists or therapeutists with some success. A one per cent solution trypflavin has been most generally used in five cubic centimeter doses twice a week. The spots are then treated by exposures to ultra-violet rays. Patients thus treated have remained apparently cured for many months. I have never used methylene blue nor trypflavin, but reports of results seem encouraging. However, I have treated cases of vitiligo, diagnosed as being definitely the result of exposure to sun's rays, by intravenous injections of gold sodium thiosulphate.

It is well known that gold medications are toxic and cannot be administered without due caution. Great divergency exists in the action of gold in different individuals. A hundred doses of gold sodium thiosulphate were given one patient, without harm, in practically a hundred weeks (Bechet). Again, another case received 0.3 gram doses, for several doses, at four-day intervals, without injury. On the other hand, I have seen a violent reaction from a single hundred milligram dose. This dose is very efficacious in the therapy of conditions for which gold sodium thiosulphate is used. However, so many reactions have occurred that the Abbott Laboratories are now putting up some ampules, each containing twenty-five milligrams of gold sodium thiosulphate. These reactions to the drug are seldom serious and serve to warn us not to continue the same dose. Violent reactions can be avoided to a large extent by commencing with smaller doses and gradually increasing the same. Observation of nervous manifestations, temperature, pulse rate, intestinal symptoms, and skin changes for possible indications of intolerance should not be neglected, and in case toxic symptoms seem to be pending, the antidote sodium thiosulphate can be administered. Many thousands of doses of gold sodium thiosulphate have been given in the United States, with very few deaths reported from its use. I doubt if it be more toxic than neoarsphenamin. Personally, I have never given more than twenty doses of gold sodium thiosulphate to a single patient. Usually, I have used the hundred milligram dose after the third injection, which some physicians declare is the critical one, though I have not found it so. Post-mortem examination of a patient who had received sixteen doses of gold sodium thiosulphate, revealed no pathology in the kidney, intestine or liver; death was due to an entirely different disease from leukoderma. I had the post-mortem done on this case by an expert in this work, and a check-up of the chemical findings by two laboratories of unquestionable repute.

We must regard leukoderma as a difficult disease to handle. If we paint spots or bleach the surrounding skin, the drugs used must not be too toxic, and since the bichlorid and subchlorid of mercury are often used for this purpose, it is well to guard against dermatitis venenata (medicamentosa). Lead white washes are as a rule to be discouraged. Aside from being poisonous, they are sometimes incompatible with modern facial cosmetics and thus may stain the skin the wrong color. X-rays as demonstrated by Cleveland of Vancouver, B. C., can be used in treatment of a small area, but the safety of Berlocq's technique of correcting the malady will appeal to most of us; however, the latter method has limitations. Treated syphilis or other diseases directly or indirectly causative of vitiligo may show marked improvement in the fundamental condition before any salutary headway is detected in the vitiligo, which may remain for years.

The injection intravenously of dyes, with the object of "sensibilizing" the tissues, offers a ray of hope to the unmarried sufferers of leukoderma in the Orient, where the disease is an unsurmountable barrier to marriage. The use of gold sodium thiosulphate, carefully administered, is justifiable in the treatment of suitable cases of leukoderma. This treatment has many virtues aside from its use in lupus erythematosus, lupus vulgaris, erythema induratum, acnitis, and tuberculosis of different parts of the body. Certain gold salts have a soothing effect upon nerves and cases of photosensitivity of the skin, other than leukoderma, where pain or discomfort have been bothersome from the sun's rays. Gold bromid is considered one of the best and most valuable of the older remedies in controlling Parkinson's disease. Other bromid salts are not so helpful. Most patients to whom I have administered gold sodium thiosulphate have improved in general health. Considering these points, I hope that more of you will try out the gold sodium thiosulphate treatment for leukoderma in those cases which you attribute the cause to photosensitivity. Reports so far by those who have used this treatment on their patients have not been encouraging as a total; no results, or incomplete cures, recurrences, and reactions have been recorded. When one considers the centuries we have had no reputable remedy for leukoderma or vitiligo, we should at least give gold sodium thiosulphate a careful trial where the severity of the condition warrants it.

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DISCUSSION

H. J. Templeton, M. D. (3115 Webster Street, Oakland).—Doctor Lindsay's usage of the terms "vitiligo" and "leukoderma" as synonymous is rather foreign to my conception. To me, the term "leukoderma" has been a general one embracing all of the depigmentations of the skin, while the term "vitiligo" has applied to a very definite clinical entity.

The symptomatic leukodermas, which arise secondarily to psoriasis, pityriasis rosea, and other scaly dermatoses, frequently disappear spontaneously. Hence it is difficult to evaluate gold therapy or any other therapy in such instances. I have seen psoriatics develop leukoderma in spite of the Vienna method of treatment, viz., ultra-violet radiation following sensitization to light induced by intravenous injections of trypaflavin.

True idiopathic vitiligo rarely responds to any form of treatment. I have treated six such cases with gold sodium thiosulphate. Although I was encouraged by the early results in one of my first patients the improvement ceased and failed to occur in the other patients. It is true that I did not give any of my patients the number of injections given by Doctor Lindsay. After having given six or eight injections in each case, I became discouraged because of the lack of improvement and discontinued the method.

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Irving R. Bancroft, M. D. (812 Detwiler Building, Los Angeles).—Doctor Lindsay suggests the possible connection between leukoderma or vitiligo and glandular dysfunction. It is well known that glandular changes are responsible for different color schemes in animals. The gonads, especially, seem to govern the brilliancy of the external covering of animals, especially birds. Thyroid hypofunction is sometimes accompanied by diffuse areas of depigmentation.

The normal balance of the vagosympathetic system is necessary for normal glandular or cellular physiology, and vitiligo, as I see it, is a semaphore which points to a natural fragility of the vagosympathetic balance. Vitiligo is frequently found in certain families and also it is found sometimes in connection with alopecia areata, exophthalmic goiter, trophic disturbances of the extremities, and in mental diseases. Vitiligo definitely resembles alopecia areata in that some cases of each disease get well with or without treatment and others do not under any known treatment.

I have found that the administration of adrenal gland substance for long periods of time is sometimes followed by recovery. Whether these patients would have recovered anyway, I do not know, but this method would seem rational because we definitely know that hypoadrenal secretion is followed by diffuse hyperpigmentation. Theoretically, the reason for this is that the normally functioning adrenal gland removes the dopa-like substance with which develops the melanin from the melanoblasts. In vitiligo we have a definite lack of melanoblasts in the affected area, and for that reason rational treatment should go back to something more basic than any local treatment. The most basic or fundamental suspect at this time is the vagosympathetic system, and it is possible that various internal remedies influence the tone of that system, but, as far as I can see, all treatment of vitiligo is a trial-and-error system of logic.

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Harry E. Alderson, M. D. (490 Post Street, San Francisco).—Pigmentary disturbances, excepting those few produced by local causes too numerous to mention, are always symptomatic. Therefore, these patients always call for very careful general medical and laboratory investigation in order to be able to treat the same on a rational basis. Occasionally I have found definite indications for organotherapy, and in such patients, after a long period of faithful medication, have seen the symptomatic vitiligo or the chloasma respond favorably. There are patients, however, in whom, in spite of most painstaking investigation, the underlying pathology cannot be found. New discoveries and developments some day, no doubt, will clarify this situation. Until then an occasional patient will have to be treated empirically.

Of local measures, of course the ultra-violet light and various irritating chemicals which ordinarily stimulate pigment production may be tried, but the results are apt to be disappointing. I have tried the combination of various photosensitizing agents with ultra-violet light in these patients, with poor success. The local use of oil of bergamot and other oils for this purpose, in my experience has been successful only occasionally.

As for the gold injections, I have not tried them, for I can see no rational basis for this form of therapy in this condition. The method is not without danger. I have given thousands of gold injections for various forms of skin tuberculosis and have seen no phenomena that suggested any influence upon the pigment-producing mechanism excepting in one patient. This was in a young man with lupus erythematosus of the face. After a series of injections his lupus erythematosus lesions improved greatly, but numerous hyperpigmented patches came on the face only. Whether or not the gold had a photosensitizing effect I do not know. We are looking for the patient's return, when we shall investigate the matter. Doctor Lindsay's discussion is very interesting, and he should be commended for presenting a question that is a source of much worry on the part of a very large number of individuals.

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Doctor Lindsay (Closing).—The rationale of treatment of vitiligo or leukoderma has been touched upon in the "Treatment of Leukoderma with Gold Sodium Thiosulphate," which appeared in the *Archives of Dermatology and Syphilology,* Vol. 20, pp. 22-26, July 1929. It must be explained that the terms "vitiligo" and "leukoderma" have been used synonymously in this article.

The definition of vitiligo is given in the fifteenth edition of the American Illustrated Medical Dictionary published by W. B. Saunders Company in 1930.

Vitiligo (vit-il-i-go), pleural Vitiligines (Latin): "A skin disease attended with the formation of smooth, light-colored patches. It occurs in youth and adult life, called also pie-bald skin and leukoderma." However, modernists have begun to consider vitiligo as an acquired condition, whereas leukoderma is regarded as "Abnormal whiteness or albinism, in patches, a congenital lack of normal pigmentation of the skin, especially that which is partial."

I believe Doctor Templeton will find that the patient who responded somewhat to gold therapy will in the long run improve, and I would like to hear from him in the future concerning the ultimate result.

The pigmentation developed in a case of lupus erythematosus which had been under treatment with gold sodium thiosulphate by Doctor Alderson I have observed in other patients, and I am of the opinion that the increase of pigment in this instance is in some way connected with the action of the drug on such a patient. It must be remembered that lupus erythematosus is a highly photosensitive disease of the skin. I also believe that certain types of vitiligo and lupus erythematosus are somewhat related.

The point which I have stressed is that vitiligo may recur after apparent cure, and in two patients whose pictures I have shown you I was able to improve them again by readministration of gold and sodium thiosulphate. A definite amelioration of the vitiligo took place within one week in one patient's appearance after a single dose of the gold. This patient had two subsequent attacks of the vitiligo spaced about a year apart, and response to the treatment of each recurrence was just as spectacular as when the gold sodium thiosulphate was used for the first time.

Investigation of the biochemical reactions of gold and sodium thiosulphate in tissue is being studied at the present time by a reputed expert in this phase of chemistry, with special reference to its action in photosensitive cases, but at the time this article is written the work is but partially finished.

THE LURE OF MEDICAL HISTORY*

ESSAYS ON THE HISTORY OF EMBRYOLOGY†

THE RISE OF EXPERIMENTAL EMBRYOLOGY

By A. W. Meyer, M. D.
Stanford University

VIII

LEEUWENHOEK

Although Leeuwenhoek wrote in 1682 to the Royal Society, saying "I find in the seed of man, as also of a dog, two different sorts of animalcules, answering the different sexes of male and female," it would be wrong to conclude that this statement was based on a random guess. It is true that he reiterated it and was firm in his belief in animalculism, but his espousal of the latter was based upon many observations and experiments. Leeuwenhoek had no difficulty in finding multitudes of spermatozoa in the vaginae, uteri, and the tubes of various animals at different intervals after coitus, but he failed to find anything answering to an ovum. He examined the reproductive organs of mammalian females of various species both before and after coitus, and examined and injected the uterine tubes in order to learn something about the size of their lumina. He rightly concluded that any object so large as a Graafian follicle could not possibly pass through the tubes and enter the uterus. He also stated that the so-called ova of de Graaf could not be isolated at any time in their development and declared in this connection: "I know some men will even swear that they have found the aforesaid eggs in the tuba fallopiana of beasts. But I need not believe that these round bodies they have seen in it should be drawn from the imagined egg-branch, through the long and very narrow passage of the tuba fallopiana, because some of the bodies are as large as a pea, nay as the whole egg-branch, and of a very firm and compacted substance: but the way through which they should pass is no wider than the compass of a small pin. Again if it were so as is said, these bodies would be found, not by chance, but always when searched for immediately after copulation; but that is so far from being true that it is hardly to be imagined, if we consider how little time is taken up in the copulation of several animals, as a cow, rabbit, etc. In which so short time, nevertheless, ought to be drawn down through a long and narrow passage, a great number of bodies; in some cases two or three, in others six or eight, and more, according to the number of fetuses to be produced."

Leeuwenhoek made a careful attempt to discover an ovum in the Graafian follicles and says that he even showed the "matter contained in the water bladders, which was nothing but transparent moisture mixed with some red blood globules," to a man who had been a companion of de Graaf, to demonstrate to him that the Graafian follicles were not ova as de Graaf claimed. Leeuwenhoek probably was unfortunate in opening immature follicles but he also opened some that were nearly mature, for he says that they looked red. In regard to these he says that when he examined them with a microscope he "saw they were water bladders, one redder than another, and containing some bloody matter, which consisted of glandulous parts, joined together with membranes, having many globules of blood spread among them, by which one of them was become blood red." From this it is evident that Leeuwenhoek, like many of his successors, including Haighton who also was unsuccessful in his search for ova a century later, were decidedly unlucky, for the ova of the mammals which they studied lie within the range of visibility. Since these men were used to "bend their sight," one can only surmise that they failed to recognize the mammalian ovum because it frequently is surrounded by granulosa cells when it is discharged from the ovary. The earlier investigators may also have looked for a larger body although Haighton (1797) knew the size of the blastocyst in the tube and realized that it grew larger as it descended to the uterus. Since the eggs of birds and reptiles are relatively large and also increase in size with the size of the animal, the absence, in mammals, of anything resembling them or the eggs of fish and amphibia, must have been very puzzling. Moreover, the idea that the early mammalian ovum probably was transparent was widespread and also quite generally accepted. Hence a more or less opaque body such as the ovum in the Graafian follicle of some of the domestic mammals such as the dog, for example, would not be likely to be recognized as such. The idea of the transparency of mammalian ova was derived partly from the conception that the individual organism did not arise from a preformed organized body and from the observation that the tubal ova found, which in fact were blastocysts, were transparent.

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* A Twenty-five Years Ago column, made up of excerpts from the official journal of the California Medical Association of twenty-five years ago, is printed in each issue of California and Western Medicine. The column is one of the regular features of the Miscellany Department of California and Western Medicine, and its page number will be found on the front cover index.

† This is the eighth paper of a series of essays on this subject. Previous papers were printed in this journal as follows: Part I, in December California and Western Medicine, page 447; Part II, in January number, page 40; Part III, in February number, page 105; Part IV, in March number, page 176; Part V, in April number, page 241; Part VI, in May number, page 341; Part VII, in June number, page 394.

Leeuwenhoek also did many experiments to determine the duration of motility of spermatozoa in a number of species and rightly insisted that although Harvey held that the uterus contains nothing after coitus, his experiments abundantly proved that this was incorrect. It is of special interest that Leeuwenhoek found spermatozoa in the cornua of the uterus of a rabbit fifteen minutes after coitus and, since he did not find them through the entire cornua, he rightly surmised that the "seed had not been long enough in the womb and that the animals had not time to disperse themselves through all of it."

From his experiments on the persistence of motility in spermatozoa, Leeuwenhoek inferred that their development into organisms might occur as late as nine or ten days post congressum, provided a spermatozoön found the proper "punctum" in the uterus for its nourishment. He rightly surmised that the uterus may not be in a suitable condition for the reception of spermatozoa at all times.

Although De Graaf thought that the masculine semen was a bearer of volatile salts which brought to the female a vital contact, and although "seventy other persons asserted the same thing," Leeuwenhoek was convinced from his experiments with mating rabbits that they all were mistaken. From these experiments he learned that, contrary to Harvey, de Graaf, and others, spermatozoa were found in the uterus after mating in dogs and rabbits. He found them in the uterus of a rabbit fifteen minutes after coitus and rightly concluded that he could not find them throughout its entire extent because not sufficient time had elapsed. In his search for the ovum, he carefully examined the ovarian vesicles in the rabbit but never found anything but a transparent fluid mixed with blood. He mated rabbits and killed them from six hours to six days after coitus and examined the uteri and tubes for ova without success. However, from his account it is quite clear that he opened implanted blastocysts of a rabbit which had been mated six days previously, without recognizing what he had actually found. Leeuwenhoek probably also found a blastocyst in a sheep, but unfortunately imagined that it contained a lamb in miniature.

Since he could not find ova in the ovaries or tubes or uterus, he concluded that the ovaries existed only for the unburdening of the adjacent organs, saying that if they really were true ovaria, the eggs should be small at first when development began and then gradually increase in size toward the time when the animals begin to procreate.

Leeuwenhoek's experiments with the seeds of plants caused him to declare: "If these distinctions of parts are so soon visible in these small seeds, why should we doubt that production of an animal from the so often named animalcules . . . and, indeed the very minuteness by which one creature is transmitted to another, is incomprehensible?" However, in 1683 he had written: "Other fetuses have a different way of growth; . . . The human fetus, though no larger than a green pea, yet is furnished with all its parts. I have often endeavored to discover the animal coming out of the male seed in the egg of a hen, but have been unsuccessful though some of the globules of the egg were magnified to the size of common apples. This disappointment has put me on the eggs of insects, as the flea and louse, which being very small, may be so much the fitter for this discovery." Leeuwenhoek did not think that the adult form was contained in miniature in the sperm, for he said in 1699, in comment on the statement of a writer in the *Republic of Letters* who claimed as much: "I have a hundred times contemplated the male seed of man; but have not yet discovered any such creature as that aforementioned."

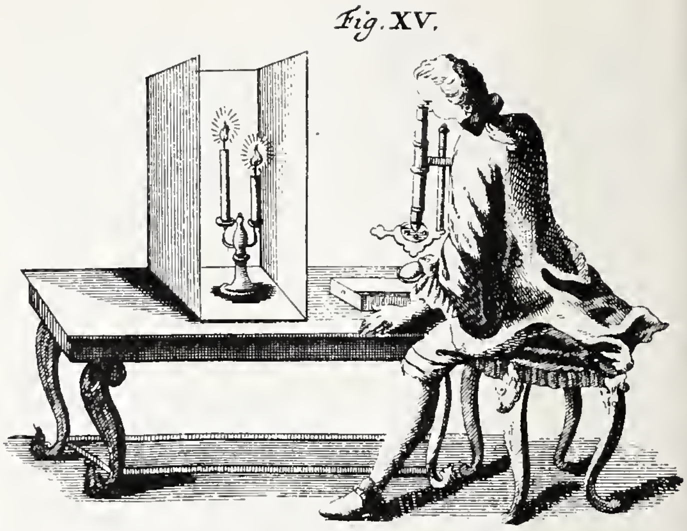

Fig. 3.—Buffon "using his microscope." Ledermuller expressed surprise that he had himself represented in a book, using so poor an instrument.

RÉAUMUR'S PLACE IN EXPERIMENTAL EMBRYOLOGY

Réaumur, I think, fills a more important place in experimental embryology than is realized for the literature contains many references to his work. It seems that he placed hen eggs in water at the temperature of incubation in order to learn whether they would hatch under these conditions and found that they would not do so. These experiments were repeated in 1879 by Dareste, who found that development may in fact begin under these conditions but that the embryo is found dead and decomposed after thirty hours of incubation. In one case in which decomposition had not set in, Dareste said he found that development had proceeded abnormally and he called this chick an "omphalocephalic" monster.

Réaumur also attempted to hatch chicks out of unfertilized or wind eggs, and such as possess no hard shell or only an imperfect one, but he failed in this. It seems that he hoped to make use of the heat generated in manure heaps, that lost in bake ovens and in industries, for the commercial hatching of eggs in France. The fact that he designed a thermometer a little less than two decades after Fahrenheit's invention, may also have stimulated his interest in these matters. Réaumur further found that excessive moisture is detrimental to incubation because, as he said, it stopped the pores in the egg shell, but he noticed that after eggs had been incubated under a hen, for ten to fifteen days, incubation could be continued in an excessively moist atmosphere without disadvantage. Whenever he removed some of the shell on the blunt end of the egg at about the seventeenth day of incubation he found that most of the chicks survived in spite of the presence of excessive moisture, and he noticed that thick-shelled eggs like those of ducks suffered most while the more porous and thin-shelled eggs of the turkey suffered least. Eggs with imperfect shells did not hatch at all and he thought that this was because of an excessive loss of moisture.

Réaumur further noticed that molds penetrated the egg shell and that the presence of a putrefying egg in the nest would cause the other eggs to putrefy. By incubating eggs in manure heaps he established that it was not the stench that had the ill effect. He further found that too high and too low temperatures produced more disastrous effects late in the incubation period and that raising the temperature is more detrimental than lowering it. He reported that the smallest eggs never hatched and that the best results were obtained with the fresher and larger ones. He also kept eggs on either end during incubation and stated that no abnormalities could be produced in this way.

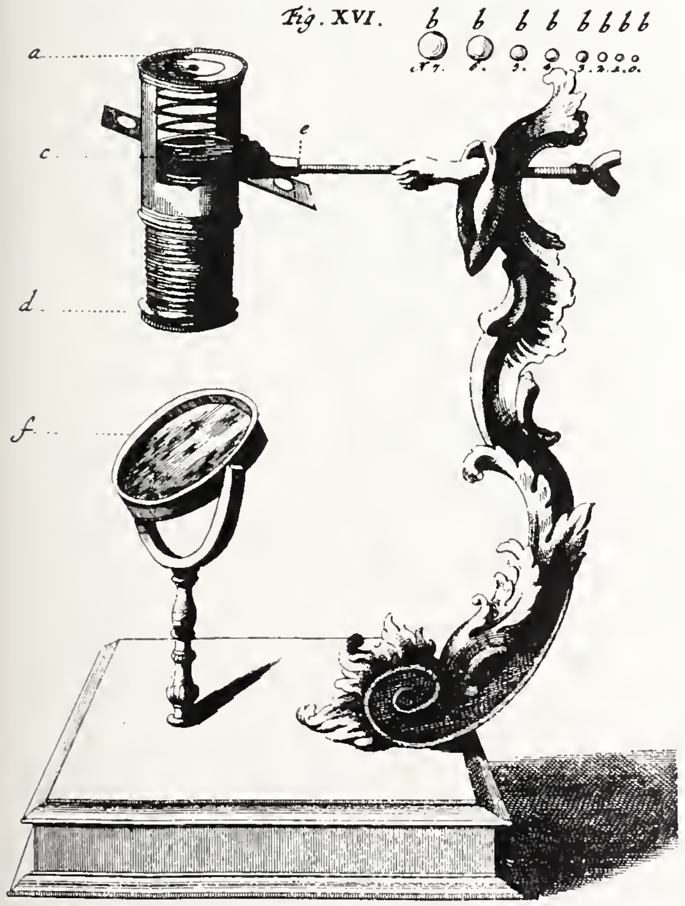

Fig. 4.—Ledermuller's "simple" microscope. (a) The lens holder, (b) the different lenses used, (c) glass object carrier, (d) location of mirror, (e) screw carrier for microscope tube, (f) concave mirror.

From anatomical evidence derived from dissection Réaumur apparently believed that bees were fertilized by copulation, but it may be recalled that he described a "spiral matrix" in a viviparous fly, which he said was composed of two thousand maggots arranged lengthwise. This is amazing from one who knew insects so well, although perhaps no more so than many other statements made in the early or the present history of science. It seems that Réaumur also investigated the occurrence of malformations, and one of his most ingenious experiments on reproduction will be spoken of in connection with Spallanzani.

SWAMMERDAM

Swammerdam, who delighted and excelled in dissections, experimented on the effect of mechanical injury upon developing pupae of the butterfly and found that he could produce malformations. He also experimented with mating snails and frogs and carefully described the occurrence of internal fertilization in the former and that of external in the latter. His description of the behavior of snails at the time of mating is very engaging and probably could not be improved much by contemporary behaviorists. While feeding young tadpoles, the development of which he was observing, on ova removed from the body of an unmated female frog, he noticed that those that were not eaten by the tadpoles failed to develop while the fertilized ones always did so. He also placed fertilized frog ova in various liquors, one day after laying, for the purpose of coagulating the albumen in order to make the removal of the albumen easier, and enable him to observe the embryos better, but he concluded that he always damaged them, although we now know that frog eggs do not contain embryos at that time. Swammerdam, like his successor Spallanzani, mistook the pigment spot in the frog egg for the young tadpole, for he too was a preformationist and ovist. It is regrettable that he did not state what the liquors were in which he placed the eggs and whether he also attempted to remove the albumen somewhat later in development. It would seem that he must have tried to do so. Being a preformationist, Swammerdam, like Haller and others, held that malformations also are preformed in the germ. Morgani, who was impressed with the changes produced by disease, thought that it was the cause of abnormal development and others looked to accident. However, the theory of epigenesis opened a door of hope and gave impetus to the study of the origin of monsters.

In spite of his many thorough investigations on and dissections of insects, Swammerdam concluded that the frog should be classed with them, and it may be recalled that Réaumur placed alligators and crocodiles among arthropods. Swammerdam believed that man and the frog pass through the same developmental stages as insects; that is, of an egg, a worm, a nymph (pupa) before reaching maturity. He also observed bees and experimented with them but, contrary to Réaumur, concluded that the female is impregnated by an aura. Since Swammerdam had found that frog ova are fertilized externally his return to an old error is all the more surprising.

CROSS-FERTILIZATION

Up to about the middle of the nineteenth century the attention of embryologists was focused mainly upon reproduction, the genesis of form, the relationships of organs and upon comparative embryology and phylogeny. The accumulation of many facts regarding the structure and form of the embryo was necessary before it was possible to undertake experimentation, but one need only recall that the keeping of bees dates far back in human history in order to realize that many experiments undoubtedly were made in this connection. The same thing probably holds for hybridization, for the "mule" among plants and animals very naturally excited great curiosity and speculation and it is likely that the breed of hybrids we still call mules has been produced from time immemorial. The fact that they were sterile could not fail to arouse curiosity and must have stimulated attempts to produce similar forms in other species. The crossing of the partridge and the domestic fowl, of dogs and foxes, must be things of the distant past, and for race crossing among men slavery offered abundant opportunity. It must have seemed anomalous that they are fertile.

(To Be Continued)

WILLIAM STEWART TAYLOR
1847-1931

A TRIBUTE TO A CALIFORNIA PHYSICIAN

By Martin H. Fischer, M. D.
Cincinnati, Ohio

"FOR forty-six years a practitioner of medicine in this valley." These are the significant words that are engraved upon the marker of William Stewart Taylor's grave. The casual reader may see in these words only the sign of a long and arduous service; those of better understanding will find in them a monument to all that medical teachers and medical schools have striven for and all that a suffering humanity of the past or the present has ever cried for.

William Stewart Taylor became a piece of his time at eighteen when, at the close of the Civil War, he floated down the Ohio from Pittsburgh to St. Louis. The army was there disposing of its mules and as the driver of a six-mule plains wagon he joined a caravan of such, bound West. The nights, beginning with the first, were broken by the circular ridings of Indians. "Not to die" was to become a part of that spirit of the West whose marks were silence, long-suffering, endurance, and fortitude.

With some five years of such discipline to his credit he made his way back to the home town of Saltsburg, in Pennsylvania, and after "reading" medicine with the doctor of his village he went to Philadelphia, where, in 1874, he had bestowed upon him the medical degree of Jefferson Medical College. He went almost at once to California and after a season in San Francisco, wishing to work with man where man touches his world most directly, he settled in the village of Livermore in the basin of California's sumptuous Livermore Valley. Her people were ranchers, her wealth was the wealth of fruits and animals, and her intelligence was that which comes from immediate contact with the soil. The wealth that springs from the accident of natural resources never came to the pioneers of the Livermore Valley.

The youthful Taylor came as first physician into this empire. As her population increased others came, but Taylor remained the first.

What kind of mental capital could the most competent of practitioners bring to any community in A. D. 1876? The medical hazards of life were the hazards of epidemic disease and its surgical hazards, those that spring from infection, from pregnancy, and from accident. All medicine came to young Taylor's door; and whatever its nature it had to be met by Taylor, and by him alone. To say, therefore, that he was a man of capacity, that he was skilled in the administration of medicine, skilled as an obstetrician, skilled as a surgeon, is to state the obvious. The practitioner of those days had to be these things or perish.

But the handicaps under which the medical and surgical knowledge of that day had to be applied added difficulties unknown today, for what is now school-boy knowledge was then unborn. The mere existence of microörganisms was still being denied; bacteria as the causes of disease were just being suggested—and flouted; disease as the expression of specific infection was hypothesis and surgery without pus was unimaginable. The turn came a decade after Taylor's graduation and few were the men who, born into the preantiseptic and the preaseptic schools of medical thought, could make the change to the new. Taylor did.

But this first change in his point of view regarding fundamentals in medical theory and medical practice was only the beginning of a series of such that he had to overcome. In surgery mere mechanical deftness had to ally itself with an understanding of the nature of disease, and in obstetrics the red flare of childbed fever had to cease being an act of God to become something more closely related to malpractice. In medicine, dropsy, fever, and peritonitis had to cease being diseases and to appear as the products of more primary disasters; while infection with specific microörganisms had to bring with it the at once simplifying and complicating concepts of specific causes for specific fevers. In therapeutics the empiric use of what was good for the sick man had to find its surer foundation in a knowledge of what constituted disordered physiology and the usefulness of any scheme of treatment in reordering it. Taylor did these things, exchanging in consequence not only the good of an older decade for the better of a later, but increasing in the process his total armamentarium for the care of the ill.

A fleeting world will first remember Taylor as the steward of the lives and happiness and sorrow of the charges that were committed to his care. He healed the sick; he lengthened their lives; he relieved their sufferings of body and of mind. This discharge of his duties he felt to be his own first right to life. Very few of his patients, even of those most intelligent, did know or could know what inward labor, inward judgment, and inward discipline he brought to bear upon the problems in hand. A professional service is likely to be of increased value because more years of experience lie behind it; but Taylor gave not only this but the gem of quality. Perhaps his colleagues were the best judges in such matters. Taylor ranked so high among his professional brethren that any would have been proud to be called a friend; and yet those that he did call such were very few. Analysis of who they were brings forth names nationally or internationally known in epidemiology, in principles of medicine, in work upon the fringes of pathological theory. These men spoke to him of the philosophic heaven in which he himself lived and out of which he could bring for eighteen hours a day the flowers which he laid upon a sick world's bed.

Taylor knew the history, the men, the minds of his profession, and not from books merely, but first-hand. He had his own bacteriologic laboratory when schools were still without them; he used antitoxin when professors were still lecturing against it; and he discussed the merits of vaccine therapy when most of his colleagues did not know that such a field existed.

In 1907 he told me that the ground squirrels of his valley were again perishing of an epidemic disease; that they had perished similarly three and six years before, and that he thought the disease was bubonic plague. Shortly thereafter he shipped to the laboratory in Oakland the dead squirrel out of which Dr. William B. Wherry isolated for the first time the bacillus of plague and through which California was recognized as an endemic focus of this disease and harbored in these rodents.

The lives of men like Taylor are "writ in water"—they leave no printed pages, they build no houses, their contemporaries perish. Lengthened days are taken for granted, and suffering relieved has no memory. In another decade, perhaps, even our subject may be one with the unknown, but the strand woven of his unselfishness, his quiet labor, and his moral courage may forever be found as a part of that which has given strength and honor to the physician's calling.

University of Cincinnati.

CLINICAL NOTES AND CASE REPORTS

FOREIGN BODIES IN MALE URETHRA

REPORT OF CASE

By E. M. Wilder, M. D.
Sacramento

FOREIGN bodies in the male urethra are not so infrequent nor is their removal so difficult as to justify reporting most cases that present themselves. However, the somewhat unusual size and character of the object removed from the following patient prompts me to place it of record.

REPORT OF CASE

On October 9, 1931, a male, age thirty-three, entered the urological service of the Sacramento Hospital, stating that a few hours previously he had introduced a common wooden indelible pencil, blunt end first, into his urethra and had lost it in his bladder. An x-ray plate showed the pencil, apparently about six inches long, lying with the blunt end in the bladder and the sharp end in the deep urethra, apparently behind the triangular ligament. Inspection showed the sharp end presenting in the perineum and apparently close under the skin, as if it had penetrated the urethral wall.

As it seemed probable that the sharp lead point of the distal end would be hard to grasp with alligator forceps through an endoscope, with sufficient firmness to remove it and that the manipulation to disengage the point from the supposedly penetrated membranous urethra might unduly damage the external sphincter, I decided to extract it through the perineum. Accordingly we cut down on the presenting point, under local anesthesia, and found that the point was engaged in the membranous urethra behind the anterior layer of the suspensory ligament, fortunately without having penetrated the urethral wall. With a little care the point was teased through between the fibers of the external sphincter and the pencil pulled out by stretching this opening without cutting the muscle. After a routine closing of the urethra over an indwelling catheter, the patient left the hospital on the tenth day.

The pencil, an ordinary Dixon's copying type, measured 6 and 13/16 inches by 5/16 inches.

1127 Eleventh Street.

OPEN SAFETY PIN IN THE STOMACH OF AN INFANT*

REPORT OF CASE

By H. J. Hara, M. D.
Los Angeles

AN open safety pin in the stomach of an infant is a source of much concern to its parents. The family physician is also disturbed, the thought of the possibility of perforation of the stomach or bowels being uppermost in his mind. The abdominal surgeon considers that children under one year of age are poor risks for gastrostomy. The final decision for the successful management of such a case frequently falls on the peroral endoscopist, who is called in consultation. Every well trained bronchoscopist knows that

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* From the Service of Otolaryngology, College of Medical Evangelists, White Memorial Hospital, Los Angeles.

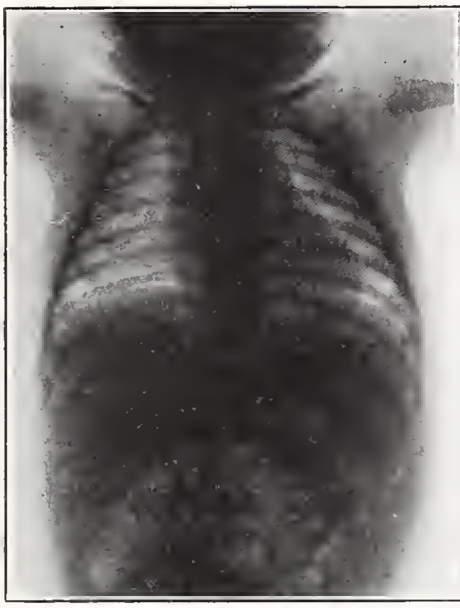

Fig. 1.—In every case where foreign body, either in the air or food passage, is suspected it has been our rule to include the region from the nasopharynx to the tuberosities of the ischia on the film.

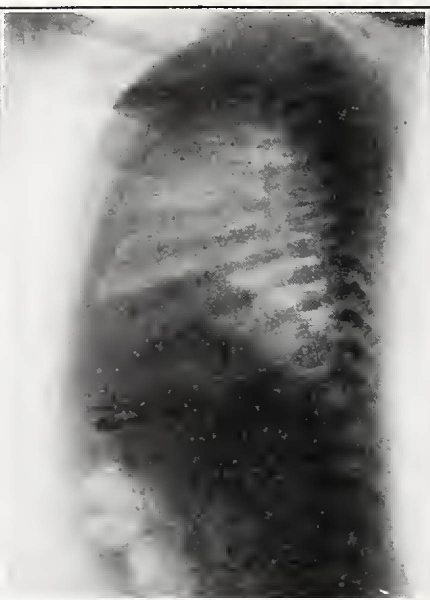

Fig. 2.—Pins and hooks that are used for the purpose of fastening diapers and abdominal bands lead to erroneous diagnosis. Radiograms are to be made with Nature's gown only, using a sheet for wrapping the child.

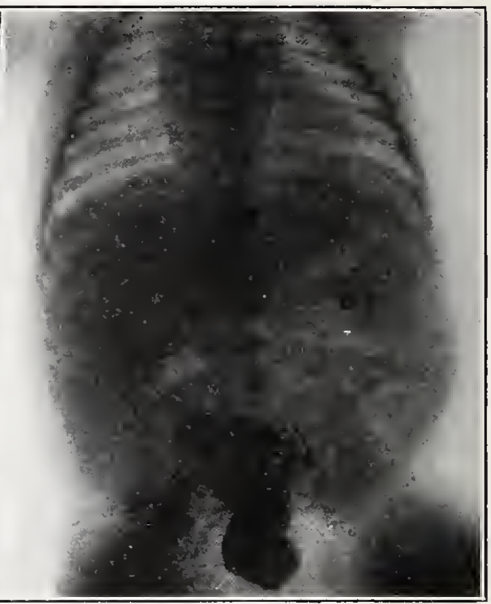

Fig. 3.—A portion of the barium enema has already been expelled. The foreign body is seen in the small intestine, twenty-four hours after having been swallowed.

gastroscopic removal of foreign bodies is comparatively a safe procedure. With the aid of a double-plane fluoroscope it can be accomplished either with or without anesthesia in but a few minutes.

In the case reported here, with the excited mother pleading for immediate intervention, the first impulse was to do a gastroscopy and bring the object through the mouth. This would certainly have prevented perforation, besides saving the mother prolonged suspense and anxiety. Then came the second and, indeed, conflicting thought that the foreign body might be regurgitated or, more likely, it would pass out through the natural passage in due time. Such were the impelling considerations as we were about to admit the infant to our service.

REPORT OF CASE

On October 19, 1931, E. C., a white male infant, two months of age, was referred by Dr. J. B. Melville Price to the bronchoscopic clinic, White Memorial Hospital, Los Angeles. According to the patient's mother, at about nine o'clock that morning the child had swallowed an open safety pin which had been pushed into his mouth by a three-year-old sister. Immediately after the accident the patient had choked and gagged. For emergency treatment he was rushed to a near-by hospital. A flat radiogram that was made there revealed the presence of an open safety pin in the region of the stomach. Our record shows that upon admission at four o'clock, the infant's temperature was 102 degrees Fahrenheit; pulse, 100; and respiration, 34. Total leukocytes were 20,000, polymorphonuclear leukocytes being 70 per cent, erythrocytes 4,444,000, and hemoglobin 88 per cent.

After replacing his clothing with a fresh pinless gown, another series of radiograms of A. P. and lateral views was made (Figs. 1 and 2). These radiograms revealed the open safety pin in the fundus, with the spring portion toward the cardia. With the aid of the fluoroscope, one could easily visualize its movement. By a palpating hand, under the screen, the pin was readily pushed from one area to another. The study on a duplicate pin, furnished by the mother, was indeed helpful. Its angulation, length, and pliability gave us a fair assurance that the pin could be safely left in the stomach for further observation. We decided on the program of watchful waiting, the wisdom of which subsequent events have proven. The following day, October 20, another fluoroscopic examination was made. At that time a barium enema was given in order to outline the colon. The pin had traveled on into the small intestine (Fig. 3), and early the next day, after more than forty-three hours since it was swallowed, the object had passed through the natural path (Fig. 4).

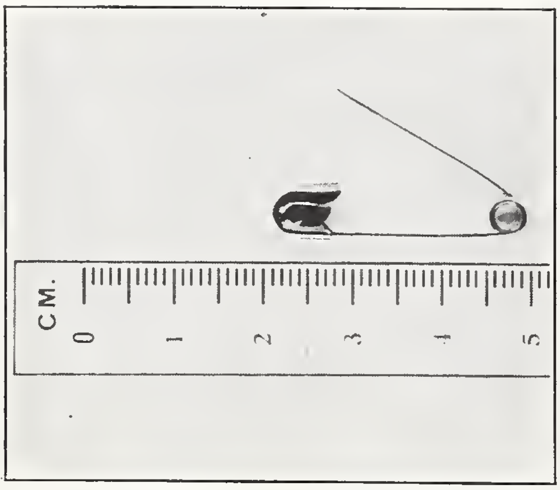

Fig. 4.—The pin recovered, forty-three hours after the accident.

COMMENT

Dr. Ethel Andre-Haskell, the attending pediatrician, who examined the child on the second day in the hospital, stated that the patient was also suffering from an acute attack of coryza, with a possible complication of beginning bronchopneumonia. This doubtless explains the presence the day previous of a rather high leukocytic count and a corresponding elevation of temperature. Thus the helpless infant was saved from unnecessary surgery, and on the third day departed in the arms of its grateful mother.

CONCLUSIONS

1. In the absence of organic stenosis of the pylorus a majority of foreign bodies that reach

the stomach unassisted can be passed per rectum. This does not, however refer to the esophageal foreign bodies which require esophagoscopic removal.

2. Administration of cathartics and changes in diet are absolutely unnecessary, and indeed are contraindicated.

3. Every endogastric foreign body requires a daily fluoroscopic study and at times stereoscopic x-ray films. It is infinitely safer to wait even for weeks than to proceed too hastily.

4. When indicated, gastroscopic removal of such foreign bodies is a safe and sensible procedure in trained hands, and can be accomplished with or without anesthesia in but a few minutes.

432 South Boyle Avenue.

ABERRANT THYROID

REPORT OF CASE

By A. B. Cooke, M. D.
Los Angeles

The term "aberrant thyroid" is employed rather loosely in the literature. Misplaced thyroid tissue occurs as the result of two different processes, namely, developmental and metastatic. In the former the site of the new growth is practically always in the anterior portion of the neck, usually contiguous to the normal gland. In the latter it may be virtually anywhere in the body and involve any organ or tissue. It is interesting to note also, with reference to the latter, that it is very apt to present evidence of malignancy either in the metastatic deposit or in the tissues with which it is associated.

It is true, of course, that all metastatic growths are in a sense aberrant. But all aberrant growths are not metastatic. Clarity would be promoted if all who report cases would bear this distinction in mind.

Mention of aberrant thyroid is chiefly conspicuous for its absence in the voluminous current literature on the thyroid and its diseases. The rarity thus indicated is doubtless more apparent than real. The problem presented and the interest involved concern pathology rather than clinical surgery. Unless the true nature of the case is suspected from the location of the lesion, it is probable that correct preoperative diagnosis is made in only a negligible percentage of cases. In most instances the diagnosis would not be made but for the good offices of the pathologic laboratory.

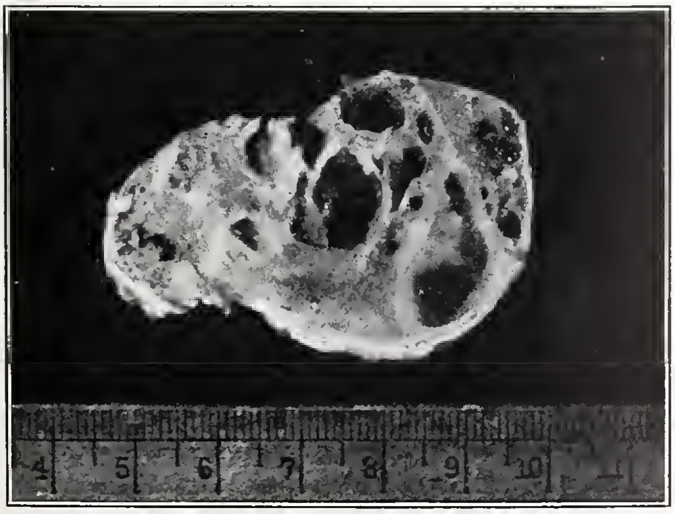

Fig. 1.—Showing size and shape of tumor with cystic changes.

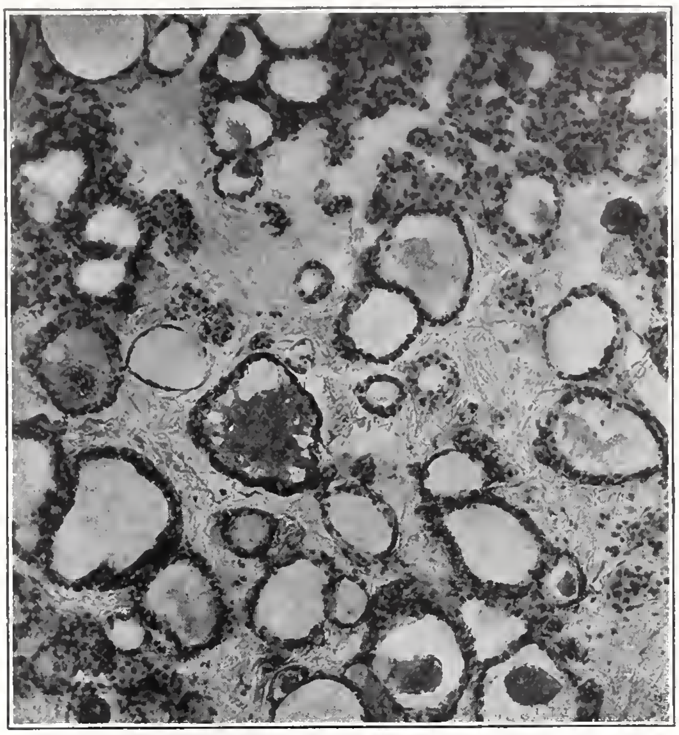

Fig. 2.—Microphotograph of section showing typical thyroid structure.

So it was with the case here reported. The investigation I have been able to make failed to disclose any report of an aberrant thyroid located at a corresponding site. The case is mainly of interest on that account.

REPORT OF CASE

R. M., white, male, age sixty-four, came into my service at the Los Angeles General Hospital on August 8, 1931, for removal of tumor of the neck. He had been, since June 13, in the urological department, where a prostatectomy was performed on July 7. He had been aware of the neck tumor for the past five years only, stating that it had increased considerably in size during the preceding few months, and had become quite tender, even giving rise to pain when he laid on that side.

Examination revealed a firm mass about the size of an average hen's egg, located above the middle of the left posterior triangle of the neck on a level with the angle of the jaw. It was located entirely behind the sternomastoid in the interspace between that muscle and the trapezius. It was firmly attached to the overlying skin as well as to all adjacent structures. Preoperative diagnosis: Fibro-adenoma. The tumor was removed under local anesthesia, requiring sharp dissection throughout. The spinal accessory nerve was exposed and identified, as it crossed the bed in which the tumor lay.

Laboratory report: Specimen consists of an egg-shaped mass of tissue, measuring 5x3x2.5 centimeters. Section shows a multilocular cystic arrangement, some with calcareous walls. Microscopic section shows typical thyroid tissue. Diagnosis: Thyroid adenoma with degenerative changes. No evidence of malignancy.

The accompanying cuts tell the story better than written description. The thyroid gland was normal in size and feel. Primary union took place and the patient was dismissed in five days.

727 West Seventh Street.

BEDSIDE MEDICINE FOR BEDSIDE DOCTORS

An Open Forum for brief discussions of the workaday problems of the bedside doctor. Suggestions of subjects for discussion invited.

ON THE OWNERSHIP OF ROENTGEN FILMS*

H. J. Ullmann, M. D. (Santa Barbara Cottage Hospital, Santa Barbara).—A physician bases his diagnosis on the interpretation of the history and of the results of the physical examination. Under physical examination is included laboratory tests; and under these the results of the roentgen examination. These roentgen findings are the interpretation of shadows found on the films and fluoroscopic screen by one skilled in such interpretation. In addition it is frequently necessary for the roentgen specialist to take into consideration the history and other factors before arriving at a conclusion. In short, a roentgen examination is a consultation of the attending physician with another physician especially skilled in interpreting the results of such a procedure.

Unfortunately many patients and a few physicians look upon a roentgen examination as the taking of photographs and that these photographs can be looked at and a diagnosis of the patient's disease made by anyone, or at least by anyone who has a degree of M. D., D. D. S., D. Osteopathy, D. Chiropractic, D. Naturopathy, D. of Christian Science, or a registered nurse. And not infrequently a layman will state positively that it is obviously shown by the films that a fracture is improperly set when actually the result of the reduction is as perfect as is humanly possible.

It would be most unusual to have a patient refuse to pay the charge for a differential blood count until the stained smear had been delivered to him, or for his B. M. R. until he had received the manometer tracings from which the rate is calculated. Yet such a demand would, in many instances, be no more absurd than the demand for the films taken during a gastro-intestinal examination. This same patient might, in justice, demand that the smears be submitted to another physician for a check-up on the interpretation, or that the roentgen films be sent to another roentgenologist for further consultation, and this is not infrequently done. But the possession of the smears or films by the patient would do him no good, and in addition would deprive the consultant of the evidence on which he based the report of this examination. Fortunately, the majority of patients who remand the films or x-ray photographs, as they call them, will appreciate the situation and withdraw their claim if the roentgenologist is willing to explain the situation in a friendly manner. If one persists, contending that he was charged for an x-ray photograph, and intends to have what he paid for, the physician can only answer that he was not charged for x-ray photographs but for the physician's opinion as a consultant in interpreting the results of the exploration of his, the patient's, body by means of the x-ray, and that films were taken only as an incidental to such exploration and are part of the consultant's office records of the examination and consultation. If the bill has been rendered for a certain number of x-ray films, such a contention on the part of the physician is difficult to maintain, for he has rendered his bill as a photographer and not as a consultant. But if, as it should, the bill reads for professional services, roentgen examination of the gastro-intestinal tract, and consultation, the patient will usually see the point. If he still refuses, a reference to letting the court decide will usually end the discussion. It is far better, however, to spend fifteen or even thirty minutes tactfully explaining the situation to an incensed patient and have him leave the office as a friend who when he entered had no idea of the work and skill involved in his examination than to have him leave as an enemy who feels that the physician has unjustly refused to give him something for which he has paid.

Some years ago when visiting Doctor Case at Battle Creek, I saw a notice in the roentgen department which explained the situation so well that, with some additions, I adopted it for a notice in the roentgen department at the Cottage Hospital in Santa Barbara during the period when I was its director.

> "Patients are sent to this department for examination and consultation and are not entitled to plates, films, or prints. Films in the hands of patients lead to false interpretation, multiplicity of advice, and bad results."

A question asked by a patient who had read the notice often led to a friendly discussion of roentgen examinations in general, and demands for films were a rare occurrence.

Why is it necessary for the roentgenologist to keep the films instead of delivering them to the patient? A chronic osteomyelitis is being watched from week to week with films taken at regular intervals. But the only thing the surgeon wants—comparison of films—cannot be had, because the patient to whom the earlier films have been delivered has mislaid or lost them because he was "tired of having them kicking around." The same story can be told of repeated lung examinations for a progressing or regressing tuberculosis, gastric or duodenal ulcer, or a mediastinal mass.

Fortunately, a decision has finally been made on the ownership of films (*Journal of the American Medical Association,* November 21, 1931,

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* For some suggested forms of notices to be used by physicians who wish to inform patients concerning the ownership of x-ray plates, see page 50.

Volume 97, Number 12, page 1542), so that a physician unfortunate enough to be obliged to defend his stand in court has a precedent.

For protection, however, a notice similar to the one described should be in every office and hospital laboratory, and bills should be rendered for professional services, examination, and consultation. Last, but most important, is to remember that a sympathetic, friendly, tactful explanation is all that is needed in ninety-nine of every one hundred disputes.

* * *

Henry Snure, M. D. (1501 South Figueroa Street, Los Angeles).—The question of who owns a roentgenogram is one which daily causes much misunderstanding between the patient, the referring physician, and the roentgenologist. The average patient believes that when he has paid for a roentgen-ray examination, he has "paid for the pictures," and is entitled to them. If the condition for which the examination was made is a chronic one and requires repeated observations, the referring physician often feels that the films rightfully belong to him. Needless to say, the roentgenologist considers them a part of his medical record and as such to be his property. Again, a hospital may lay claim to x-ray films as part of their record. However, since the underwriters of fire insurance have made it very expensive to properly store films in certain cities, the desire to claim ownership of x-ray films has somewhat lessened. Films are often left in court as part of a legal record.

What is an x-ray film? When sold by the manufacturer to the dealer it is a commodity comparable to an artist's canvas, legal forms, or writing paper. It is sold to the roentgenologist as so much raw material. After the film has been used to record parts of the patient's anatomy by means of a roentgen-ray exposure, it is no longer a commodity but a medical record of some particular person and can be used for no other purpose. It is as much an integral part of the roentgenologist's record as the case history of the internist or the tissue slide of the pathologist. As far as I know, there are no laws in this state requiring a physician to furnish each patient with a copy of his medical history or a tissue slide of a tumor that has been removed from a patient. No one believes that a roentgen-ray examination, consisting of a fluoroscopic observation only, entitles the patient to a portion of the apparatus.

What the patient really pays for is the diagnosis or interpretation and not so many square inches of film. If the roentgen films are half as dangerous as some fire inspectors believe them to be, then by all means they should be kept in one place under ideal conditions and not scattered throughout the homes, hotels, and offices of the land; the safety of the patient as well as the safety of others should be paramount.

A recent decision[1] in Michigan where a patient refused to pay his hospital bill unless the roentgenograms were given to him was rendered in favor of the hospital. The court made it clear that the patient paid for the diagnosis and not the material. The court said that the protection of the hospital might depend upon the roentgenogram and for that reason should be retained by the hospital. However, the judgment in favor of the hospital was by default because the patient did not appear to contest the suit; what a higher court might decide is problematical. It is not unreasonable to consider that the information obtained from a film should be classified as a privileged communication, the details of which should be known only to the physician in charge.

In certain states it has been decided that a photographer retains ownership of the negative from which prints are made for his client. It would seem that a medical report based on observations made of the roentgenograms would be somewhat similar to the prints.

In a case[2] in New York where the patient was accused of withholding roentgenograms, the court said: "The evidence shows that nobody but an x-ray expert could tell anything from the plates, and that if they had been produced they would have done the court, jury, or the defendant's ordinary physicians no good. I do not think that the doctrine that an ordinary photograph is the best evidence of what it contains should be applied to x-ray pictures. They constitute an exception to the rule concerning ordinary documents and photographs, for the x-ray pictures are not, in fact, the best evidence to laymen of what they contain. Generally they are no evidence at all, signifying nothing whatever except to the expert. The opinion of the expert is the best evidence of what they contain—the only evidence."

In actual practice it is conceded that the film belongs to the roentgenologist. He often expends considerable money to properly store exposed films. Some of the films are used in teaching medical students and nurses; also for preparing papers presented to medical societies. A small percentage of the films that are several years old are recalled from the file for further study of cases of urinary calculi, tuberculosis, gastro-intestinal disease, etc.; also to prove the absence or presence of some previous injury in legal cases. It is understood that all the filed roentgenograms are carefully indexed and cross-indexed, otherwise ownership of the same would be useless.

When films are given to the patient they are frequently damaged in a short time and are useless as a record or are lost. Not infrequently the patient may be visiting far from home, yet details of his previous roentgenograms may be necessary for an immediate operation and they can be promptly obtained from the roentgenologist on request by wire. On the other hand, to describe all the minute detail depicted, for instance on the chest film of a case of widespread tuberculosis, is not feasible. Therefore, if the patient happens to be a tourist, I have either given him the films to deliver to his family physician, or better still, send the films direct to his physician where they would be more available for future study by the patient's roentgenologist or physician.

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[1] Hurley Hospital vs. Gage, Genesee County, Mich., April, 1931.

[2] Marion vs. Coon Construction Co., New York, 1913, Third Dept., Vol. 157, App. Div. 95.

I am sure that most roentgenologists will not argue about the ownership of the film if the best interests of the patient demand that they be sent elsewhere. If the patient changes physicians, the roentgenologist should be permitted to render a copy of a previous report or to consult with the new physician in charge of the case. In this connection there is an opportunity for the roentgenologist to safeguard the patient against quacks and fakers.

In the last analysis, the ownership of roentgenograms is a legal question and not a medical one. When judgment was rendered in favor of the Hurley Hospital, as previously mentioned, the court pointed out that what was sold to the patient and what he paid for was knowledge and experience, not the material that went into the roentgenograms. In other words, the roentgenologist owns the film and the patient pays for the diagnosis or interpretation.

* * *

Robert F. Kile, M. D. (323 Medico-Dental Building, San Francisco).—Ownership of x-ray films is and always has been a somewhat disputed question and assumes different aspects, as the laboratories in which they are taken differ, and also according to the status of the case: as to whether it is clinic, industrial, private, or medicolegal. The only ones in which there is no dispute are the clinic cases, especially in teaching institutions. These films are the acknowledged property of the institution and are simply valuable in that they can be used for teaching purposes.

The entire value of any x-ray examination is the final interpretation of the film, and therefore the report embraces all.

The question of ownership was answered by the Circuit Court of Genesee County, State of Michigan, in the following decision, and I believe should and would be upheld by any court in which a test case might be brought. An excerpt concerning this Genesee County case follows:

"In this case the patient's bill from the Hurley Hospital contained a charge for the making of certain x-ray films. The patient refused to pay that part of the hospital's bill representing the part of the charge referable to the films, unless the roentgenograms were delivered to him. This the hospital refused to do and brought suit against the patient for this part of his bill.

"Judgment was rendered against the hospital in the Justice's Court, but on appeal to the Circuit Court the judgment was reversed.

"The Circuit Court pointed out in its decision that what the hospital had sold and the patient had paid for was not the material which went into the roentgenograms, but knowledge and experience. Furthermore, that the protection of the hospital might depend largely upon the proper preservation of the roentgenograms, and that the films properly belonged in the hospital records."

ADDENDA—X-RAY OWNERSHIP NOTICES

On the Ownership of Roentgen (X-Ray) Films and Prints.—At the meeting of the California Medical Association Council held on May 28, 1932, some form notices dealing with roentgen films and prints were considered.

The Council gave its approval to the form notices which follow. It is hoped these will prove of service to members of the California Medical Association. The attention of members of the California Medical Association is called thereto, and also to the Bedside Medicine symposium in this number of California and Western Medicine, dealing with the subject of ownership of roentgen films and prints. (See page 48.)

Forms approved by the Council are printed below.

* * *

Form 1.—Physician's Office Form.

NOTICE TO PATIENTS REGARDING ROENTGEN (X-RAY) FILMS AND PRINTS

Any roentgen (x-ray) films or prints thereof made of any patient or taken for the purpose of aiding in diagnosis, are the basis for the opinion given and/or diagnosis made, and the charge made therefor is for the interpretation of the films and the diagnosis made therefrom, and not for the films themselves, which are a part of the office record of the patient.

Where it is necessary, any other attending physician may see and make full examination of the films, and if necessary the films will be sent for the temporary use of such physician. Reproductions of films will also be made at cost on request of such attending physician.

Under no circumstances can the original films or prints thereof be otherwise taken from the permanent records of this office.

* * *

Form 2.—Hospital Form.

NOTICE TO PATIENTS

Roentgen (X-Ray) Department
.... Hospital

Patients are referred to the Roentgen (X-Ray) Department of this hospital for a roentgenological examination. The roentgen (x-ray) films taken are the basis for the interpretation by the consulting roentgenologist, and his opinion when given in consultation with the attending physician is an aid in arriving at the final diagnosis.

The charge made therefor is for such interpretation, opinion, and consultation, and not for the films themselves which form a part of the hospital records. Patients, therefore, are not entitled to these films or prints thereof.

These films or prints require special professional skill and experience for their proper interpretation, and therefore will not be shown to patients except by permission, and in the presence, of the attending physician.

On request of the attending physician the films or reproductions thereof may be temporarily withdrawn from the hospital records for use by another physician. An extra charge of $............ is made for each reproduction.

Under no circumstances can the original films or prints thereof be otherwise taken from the permanent records of this department.

No exception can be made to these rules. Please do not ask that any be made.

....
Director, Roentgenology Department,
.... Hospital.

Approved:

....
Director of .... Hospital.

Form 3.—For Hospital Use.

(Form of stickers to be attached to original film.)

This film is the property of .... Hospital, ..., California, and is a part of the permanent records of said hospital. If loaned for examination to an attending physician, it must be returned promptly.

* * *

Form 4.—For Physician.

(Form of sticker for individual office.)

This film is the property of Dr. ...., and is a part of his office records. If loaned for examination to an attending physician, it must be returned promptly.

* * *

Form 5.—Roentgenologist's Office Form.

NOTICE TO PATIENTS REGARDING ROENTGEN (X-RAY) FILMS AND PRINTS

Patients are referred to this office for roentgenological examination or treatment. The roentgen (x-ray) films taken are the basis for the interpretation made and opinion given in consultation with the attending physician as an aid in arriving at the final diagnosis.

The charge made therefor is for such examination, consultation, and opinion, and not for the films themselves, which form part of the records of the office of the attending physician and this office. Patients, therefore, are not entitled to these films or prints thereof.

These films or prints require special professional skill and experience for their proper interpretation, and therefore will not be shown to patients except by permission and in the presence of attending physician.

On request of the attending physician any film or reproduction thereof contained in the files of this office may be temporarily withdrawn for use by another physician. An extra charge of $................ is made for each reproduction.

Under no circumstances can any original films or prints thereof contained in the files of this office be taken therefrom except for delivery to the attending physician.

Report of the Committee on Nurses' Training Schools of the Association of American Medical Colleges.—Your Committee, appointed several years ago, to consider "the relation of the medical college to the school of nursing," has taken advantage of several studies that have been made pertaining to schools of nursing, particularly those portions concerning the so-called University Schools of Nursing.

These studies clearly indicate that there is no uniformity in plan of organization or administration among these schools and, as one study states, "If it is true that, ideally, the university schools of nursing must be by definition an integral part of the university system, then there are few of these schools which do not fall far short of the ideal."

Schools of Nursing as now conducted by universities are superior to those conducted by many hospitals in that they have better administration and control of instruction, a higher quality of faculty and better facilities for class and laboratory work. There are some schools, however, of which this cannot be said.

It is reported that there are more than 2,000 schools of nursing in the United States, having an enrollment of approximately 85,000 students, of whom 65 per cent are high school graduates, 27 per cent have not completed high school courses, seven per cent have had from one to three years of college work and only one per cent have had four years of college education.

There is general agreement that, while there has been an overproduction of nurses during recent years, the supply of women who by reason of their preparation are qualified to occupy positions of responsibility in the nursing field is quite limited.

It would appear, therefore, that those universities conducting schools of medicine with their associated hospital facilities are in a strategic position to make valuable contributions to the field of nursing.

The basic training of the usual nurse may be regarded as primarily technical in nature. While there has been criticism of universities for including such training among their activities, certain types of technical training can best be given under such auspices because of the facilities which exist and which must be provided for professional education. These facilities offer the best environment for technical training as well. Particularly is thus true in the case of the nurse. It is appropriate, therefore, that universities which have these facilities conduct such nurse training.

In addition to this type of technical training, however, it is suggested that universities which are conducting schools of medicine organize courses for nurses which are entirely of collegiate standard. These courses would seem to group themselves into four divisions:

1. Those which are primarily cultural.
2. Those which are fundamental to medicine—(the pre-clinical group).
3. Those in which there is overlapping between medicine and nursing—(the clinical group).
4. Those which pertain primarily to nursing—(nursing technique, history, ethics, etc.).

Having these four groups in mind, a curriculum might well be prepared which, together with such practical experience as may be found necessary, would merit a college degree and which would qualify the student for responsible work in the field of nursing.

Opportunity for research and for postgraduate study in some of the special fields of nursing should also be provided.

The relation of the medical school to such courses would, in large part, depend on the general organization of the university. In some universities, the school of nursing may be a separate entity, numbering on its faculty some of those who are also on the faculty of the School of Medicine. In others, the medical school may assume responsibility for the conduct of such courses, and for that purpose there would be added to the faculty of the college such additional members from the field of nursing as may be indicated.

In other instances, the academic control may be lodged in the College of Arts and Sciences in which case faculty members would be added from the School of Medicine and the nursing field.

The specific relation is not deemed to be so important as is the assumption that medicine desires to coöperate with nursing in the development of its field and in making available such opportunities as now exist in the School of Medicine that will make for the development of teachers and administrators in the field of nursing.

If the Association desires that a more intimate study and report be made concerning the interrelationships between medical colleges and the nursing schools, the curricular content of collegiate standard courses as suggested herein, or more definite details on possible methods of administration, it is recommended that either this committee or another committee be so instructed.

(Signed) A. C. Bachmeyer, Chairman, A. M. Schwitalla.—*Journal of the Association of American Medical Association.*

Roentgen Irradiation of Barium-Filled Stomach.—Scholz has noted that roentgen radiation applied to the barium-filled stomach in inoperable gastric tumors seems to aid in the bringing on of the regression of the tumor mass. Avoidance of the suprarenals in the application of radiation to the stomach is of great importance. The best way to avoid the suprarenals is by definitely determining in each individual case their exact position and the position of the stomach. This can be readily accomplished by projecting the outline of these organs on the surface of the body.—*Radiology,* and *Journal of the American Medical Association,* Vol. 98, No. 17.

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Leaflet Regarding Rules of Publication. — California and Western Medicine has prepared a leaflet explaining its rules regarding publication. This leaflet gives suggestions on the preparation of manuscripts and of illustrations. It is suggested that contributors to this journal write to its office requesting a copy of this leaflet.

EDITORIALS*

ON COMPENSATION TO PHYSICIANS—FOR PROFESSIONAL SERVICES RENDERED IN PUBLIC HOSPITALS

Survey Reports on Medical Costs.—The recent reports and articles concerning medical costs by foundations, survey committees, magazine contributors, and other interested agencies, many containing considerable criticism of the medical profession, have not been without value. Thinking members of the profession have been led to take stock of themselves and of their profession, so that the articles may be said to have been an incentive for more active effort in overcoming professional and organization weaknesses and deficiencies.

It cannot be denied that some of the articles have produced more or less justifiable irritation because of their uncalled for and unjust criticisms. Especially so to physicians who for years have given gratuitously of their best in public hospitals. To many physicians the thought has come that the medical profession in this somewhat materialistic age possibly was doing itself a great injustice when it failed to demand equitable rewards for the medical and surgical services rendered by physicians in public institutions, such as in county hospitals for instance. Under present conditions it is not strange that members of the medical profession should be coming to the conclusion that the physicians who give gratuitous services should be compensated for professional services so rendered in manner similar to that in which other citizens are paid who sell their services to such institutions. What follows in these lines has to do with this just stated thought.

* * *

An Interesting Hospital Survey in South Africa.—Some time ago, in one of the news letters of the *Journal of the American Medical Association,* appeared an item in which was discussed a survey which was being made by the "Medical Association of South Africa." In order to secure more detailed information, the editor wrote to the secretary of that Association. The replies to the editor's request are printed in this issue of CALIFORNIA AND WESTERN MEDICINE, page 68.

South Africa seems far away from California and geographically considered it is. But from the standpoint of medical services to citizens it is reasonable to assume that physicians in South Africa render professional services in much the same manner as do doctors of medicine in California. The letter from the *South Africa Medical Journal's* editor, printed in this issue of CALIFORNIA AND WESTERN MEDICINE and above referred to, presents certain facts in very fair fashion. The questionnaire blanks are also interesting, because they show how colleagues in a far-away country have proceeded to learn one another's views on certain questions, and also because with the questions are outlined the types of public hospitals in operation in South Africa. It is hoped that readers of CALIFORNIA AND WESTERN MEDICINE will take the time to scan these form blanks. They suggest methods which in modified fashion could be advantageously used in city, county, and state surveys in our own land.

* * *

Los Angeles County General Hospital Contemplates a "Collection Bureau."—What may be called a sidelight on the above comments concerning compensation to physicians is the following excerpt from a news item which appeared in the Los Angeles *Examiner* of May 9 last:

> "Los Angeles County is getting tired of giving free medical attention to persons able to pay and who do not make any attempt to meet their bills.
>
> "When the Supervisors meet tomorrow in their regular budget hearing they will discuss the advisability of establishing a 'collection bureau' to force payment of bills for treatment administered to patients at the General Hospital."

If a plan such as above outlined is carried out, it will be a real innovation. However, one of its kindly results may be its influence in causing physicians and surgeons to question themselves concerning the whys and wherefores of their own gratuitous professional services in such a public institution, and why under such conditions these services should continue to be of a gratuitous nature.

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* Editorials on subjects of scientific and clinical interest, contributed by members of the California Medical Association, are printed in the Editorial Comments column, which follows.

Money Value of Gratuitous Professional Services Rendered in this Hospital.—As is well known, the Los Angeles County Hospital is one of the big hospitals of the United States. In addition to a large resident and intern staff it has an attending staff of about two hundred physicians and surgeons and specialists, practically all of whom are members of the Los Angeles County Medical Association. The June 11 hospital number of the *Journal of the American Medical Association,* page 2081, gives to the Los Angeles County Hospital, Unit One, a capacity of 1,462 beds and an annual turnover of in- or bed patients to the number of 30,884. The ambulatory service established less than ten years ago is credited with four to five hundred thousand outpatient visits annually.

Any estimate of the money value of the professional services rendered by the attending staff of a public hospital depends largely upon the value set for basic services. Several years ago in this journal the figures were presented indicating that the attending staff of the Los Angeles County General Hospital, Unit One, gave gratuitous medical and surgical services, which on a most modest money valuation for patient visits, minor and major surgical operations, amounted to more than five hundred thousand dollars yearly. It was also stated that although the rich county of Los Angeles did not give these attending staff members pay for services so rendered, it actually felt too poor to print a detailed annual report of the medical and surgical work done in the institution.

Comes now, to the surprise of the attending physicians and surgeons, a movement on the part of the County of Los Angeles to establish a "collection bureau" to collect, in a big way, moneys from all county hospital patients who can pay. Such collections from a few patients, either from the patients themselves or near relatives, has been in vogue for a number of years, but, according to reports in the public press, it is now contemplated to make such collections on a larger and more comprehensive scale. The Los Angeles County Medical Association and the attending staff of the Los Angeles County Hospital should be interested in this proposed collection bureau and should learn whether or not it is intended to repay to attending physicians and surgeons a portion of the moneys collected by the county for the "free medical attention" rendered. If the laborer is worthy of his hire, and if the County of Los Angeles is to collect for professional services rendered, then the physicians and surgeons who give such services should be taken into proper consideration when funds so received are allocated and distributed.

* * *

Latest Construction Costs of the New Unit of the Los Angeles County General Hospital.—Before leaving the subject of the Los Angeles County Hospital it may be proper to refer to another item printed in this issue of California and Western Medicine. It is an excerpt from an article in the Los Angeles *Times* of June 8, in which the cost figures for the new acute unit of the Los Angeles County Hospital are given. This new acute unit is not yet completed nor has it been equipped. How many thousands of dollars will be needed for such completion and equipment is not known.

The excerpt quotation is printed in full in this issue, page 69, and begins with the statement:

> "A total of $12,724,112.79 has been spent thus far on the new acute unit of the Los Angeles County General Hospital, largest institution of its kind in the world, according to figures compiled by County Auditor Payne, and turned over to the Board of Supervisors."

Attention also may here be called to the following paragraph regarding architects' fees for the drawing of plans and supervision of construction of this unit:

> "According to the Auditor's figures, the architects on the committee handling the contracts for the new building have been paid, up to date, $889,315.07 for their services."

The construction costs of this new acute unit of the Los Angeles County Hospital were discussed in the March 1930 number of California and Western Medicine, page 193, under the heading "Construction and Maintenance Costs in the New Unit of the Los Angeles County General Hospital—What of Ultimate Results?" and in other issues.

From the editorial comments there and then made the following is taken:

> "Mention was made of the massive new building now in course of erection. It was stated that this new building ' . . . will cost some $10,000,000. Perhaps $12,000,000 will be nearer the total cost of this new unit.' "
>
> " . . . Two members of the Board of Supervisors emphatically declared they will insist that the cost of the completed building be held down to the original estimate of $11,000,000."

These last quotations are the more interesting when contrasted with the cost figures which to date have reached a total of $12,724,112.79 for the building of this almost monolithic structure which is yet to be completed and equipped!

* * *

Different Nature of Rewards to Architects and Physicians.—To the editor, who is a member of the Advisory Medical Board of the Attending Staff, and to others of that board who with him strove earnestly but in vain to prevent some of the things which have taken place in the construction of this new unit, there comes at times a feeling of sheepishness when it is recounted how on occasions in the past he and his colleagues on the board, all of whom have given gratuitous professional services to the institution for years, at conferences held with the architects paid for the dinners of the architects. While the members of the attending staff board still give gratuitous services to the institution, the architects for their work on this new acute unit have received a total of $889,315.07 for their services to date. Can a legitimate reason be brought forward to explain why, when architects are paid for their services to the extent noted above, it should be insisted that members of the medical profession should give gratuitously professional services that conserve the health and the lives of thousands of fellow citizens?

To add to the special features of this peculiar situation, the County of Los Angeles now proposes to institute a "collection bureau" to collect fees from persons able to pay, presumably to compensate itself for giving "free medical attention," but no mention has been made to date of repaying a portion of the fees so collected to the physicians and surgeons who actually supply the professional services.

* * *

Analagous Conditions Exist in Other County Hospitals.—The above figures and facts furnish abundant basis for serious thought. In lesser quantative degree problems such as have been here outlined concerning the Los Angeles County General Hospital have arisen in other county hospitals in California, and to the profession and lay people of these smaller and less wealthy counties are equally important. It must be apparent that the component county medical societies in California owe it to themselves and the people to know much more than they do about their respective county hospitals.

Truly, we of the medical profession may well survey ourselves and our gratuitous services to the public. We live in a changed day and generation. It is quite possible that important readjustments are needed. If so, it is not too soon to begin to educate ourselves and lay citizens concerning more equitable methods of procedure. Otherwise we may find ourselves in the rôles of martyrs at altars given over to worship of traditions and of civilizations that are behind us.

THE NEXT CALIFORNIA LEGISLATURE—ITS PUBLIC HEALTH IMPORTANCE

Petitions of Candidates for California Legislature Filed Before June 26.—This coming November California will hold a state election. At that time a new legislature will be elected. There are twenty senatorial seats and eighty assembly seats to be filled. As this is written, a press dispatch from Sacramento indicates that there will be a total of some 400 candidates for these 100 positions. The petitions of all candidates must be filed before June 26.

It is important for all county medical society committees on public policy and legislation from now on until the final election is held to be alert to their responsibilities. All members of the California Medical Association also have responsibilities, for the committees on public policy and legislation are only the leaders and spokesmen in this particular work.

After June 25 the public press throughout California will print repeated items concerning candidates for the legislature. Members of the California Medical Association should clip and file such items, for they can be of real use to committeemen and others.

Every member of the California Medical Association should also make it a matter of special business not only to know who will be the candidates from his own assembly or senatorial district, but also to know as much as can be gleaned concerning the background and public health viewpoints of each candidate.

The next California Legislature should be composed of assemblymen and senators having sound views on public health and of the rights of lay citizens to be properly protected in all matters of public health.

The duty of medical men and women who would live up to their civic and professional responsibilities is very plain in all this. It is to obtain the information noted above and to send the same in personal or other memoranda to county medical society secretaries for transmittal to county and state medical society committees on public policy and legislation. Our committeemen will appreciate such coöperation greatly. To be successful in the work for which they have been appointed they must have the active support of their colleagues. They are entitled to such support and should receive it.

ON THE OWNERSHIP OF X-RAY FILMS AND PRINTS

Bedside Medicine Symposium on Ownership of Roentgen Films and Prints.—Many medico-legal viewpoints have been given on the subject of ownership of x-ray films and prints. The subject is an everpresent source of controversial discussion, both in and out of the courts. From time to time a decision that seems to clarify the situation is handed down by some court only later to be set aside, on appeal to a higher court. In a recent case which was up before one of the courts in San Francisco, the learned judge rendered a decision on a point involving x-ray films and prints, giving an opinion quite different from that generally held by medical men.

Roentgen films and prints seem to have a peculiar fascination for the members of lay juries and even to some judges, and improper understanding of films and prints may easily jeopardize the reputation of a physician or surgeon. The subject is therefore one which is of great importance to the medical profession. Readers of California and Western Medicine are invited to take the time to read the symposium printed in this issue. (See page 48.)

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Some X-Ray Notices and Safeguards to Be Used by Physicians.—All malpractice cases arising in California are brought to the attention of the California Medical Association Council for consideration and discussion. The Council at its San Francisco meeting held on May 28 authorized the publication in the official journal of certain notices to which its attention had been called by Dr. Henry J. Ullmann of Santa Barbara, who had been using such in his private practice. A special committee was appointed to study these. These form blanks, as modified and approved by the Council, are now presented for such suggestive value as they may have to members of the California Medical Association, and are printed in this July number of California and Western Medicine. (See page 50.)

It is hoped that the forms submitted will commend themselves to California Medical Association members and be of real service in simplifying the question of ownership of films and prints for those who need and use them.

COMMENT ON THIS AND THAT

How Hospital Service Has Increased in Recent Years.—The June 11th hospital number of the *Journal of the American Medical Association* gave some very interesting facts and figures concerning hospitals of the United States. The growth of these institutions has been phenomenal. Today hundreds of millions of dollars are represented in American hospital buildings and equipment. Fifty years ago there were less than two hundred hospitals in the United States, with a capacity of about 35,000 beds. In the present year 1932 there are more than 6,000 hospitals, housing about one million beds.

In California there are 18 federal, 17 state, 61 county, 6 city, and 5 city and county hospitals, or a total of 107 government-owned hospitals, having a total of 39,045 beds, in which a total of 162,599 patients received care during the year 1931.

California also maintains 41 church, 6 fraternal, 15 industrial, 136 individual, and 102 independent hospitals, or a total of 300 nongovernment hospitals with a total capacity of 16,936 beds, in which a total of 299,878 patients received care during the year 1931.

By type of service, California had 256 general hospitals recording 420,030 patients admitted; 27 nervous and mental hospitals with 4,112 admissions; 46 tuberculosis hospitals with 5,441 admissions; 14 maternity hospitals with 2,051 admissions; 16 industrial hospitals with 10,367 admissions; 13 convalescent and rest hospitals with 864 admissions; 2 isolation hospitals with 21 admissions; 4 children's hospitals with 9,471 admissions; 2 eye, ear, nose, and throat hospitals with 2,690 admissions; 3 orthopedic hospitals with 1,690 admissions; 14 hospitals in institutions with 4,078 admissions, and 10 miscellaneous hospitals with 1,662 admissions.

To serve these hospitals, California had 146 hospital superintendents, 419 interns, 390 resident physicians, and 6,882 members of attending staffs; or a total of 7,837 physicians who served in hospitals in 1931, as against a total of 6,442 physicians who served in hospitals in 1928.

California has 117 outpatient departments, which in 1931 admitted 478,664 outpatients, and those patients in 1931 were credited with a total of 1,752,496 outpatient visits to such departments.

The above interesting figures furnish a basis for serious thought and suggest numerous queries. Is California over or underhospitalized in either its government or nongovernment hospital accommodations? Are the nongovernment hospitals in such financial shape that they are in position to weather adverse economic conditions such as exist at the present time? Are certain of the government hospitals, more particularly the county institutions, operating in unfair competition to nongovernment taxpaying hospitals which were organized at earlier dates than the government institutions; and if so, what should be done to remedy such conditions? To what extent should be carried on the further construction of government and nongovernment hospitals in California? Are citizens of moderate financial circumstances in position to bear the expense of hospitalization and at the same time pay proper fees to attending physicians? Has there been a tendency toward overhospitalization? Is a sentiment developing to any extent among large groups of the lay population of California that citizens have a right to gratuitous professional services in government hospitals, more particularly in county institutions, and, if so, what is to be the answer by the supporters of nongovernment hospitals, by the taxpayers who maintain government hospitals, and by the medical profession whose members give gratuitous services in so many public hospitals?

The above and many other questions come to mind in a consideration of some of these present day hospital and medical practice problems. It is important that members of the profession should familiarize themselves with all phases of hospital work, because many of these problems are of themselves and through professional and lay boards being pressed for early solution. An accurate knowledge of facts and figures is necessary if sound conclusions are to be drawn and needed policies formulated.

* * *

Status of Schools of Nursing.—Somewhat pertinent to a discussion of general hospital problems is that of the nursing schools which have accredited standing in many of the institutions. The rise of the American trained nurse is a comparatively recent phenomenon. The same may be said of the training schools for nurses which a few years ago it was the ambition of almost every moderate sized hospital to maintain. In the last decade, owing to the higher and steadily increasing standards of nurses and hospital associations and of the state examining boards for nurses, it has become evident that schools of nursing may easily become luxuries for hospitals to maintain.

In this connection an item from the Los Angeles *Times* of June 6 last may here be quoted:

> "A plan providing for a complete reorganization of the system under which the School of Nursing at the Los Angeles County General Hospital is operated, which will, it is declared, effect an annual saving of $250,000, has been submitted in a report by Norman R. Martin, executive superintendent of the institution, to Supervisor Shaw. The latter has been advocating the change for more than a year. . . . "

In the plan referred to in the above item it is proposed to do away with stipends to student nurses, to reduce the school of nursing from 600 to 250 students, and to admit students only after they have pursued training courses for nurses as given nowadays in junior colleges.

It is worthy of note that the San Francisco City and County Hospital several months ago also took somewhat similar action. (See February 1932 California and Western Medicine, page 139.) It is rumored that a number of nongovernment hospitals in California also have under consideration the discontinuance of their training schools for nurses.

Just to what extent these changes will take place and whether the scope and modifications in system and methods of training will be of a permanent nature will be more evident after a few years of trial than at present. It will be interesting to note how these alterations in hospital personnel will affect hospital procedures and efficiency.

* * *

"Physicians' and Surgeons' Courses" in Chiropractic Schools.—In several recent issues of California and Western Medicine considerable space was given to the publication of some form letters which were sent by a chiropractic school to some prospective students. (See California and Western Medicine of April 1932, page 295.)

The announcement of "physicians' and surgeons' courses" in certain schools of cultist groups, at a time when the licentiates of such schools have no right to practice surgery in California, naturally gives rise to the thought that at the next session of the legislature, which will convene on January 3, 1933, one or more of such enabling acts to grant legal recognition as physicians and surgeons to licentiates of such cultist groups will be presented.

In this connection the following item from the Los Angeles *Herald-Express* of June 19 may be of significance:

> "The first graduating exercises of the College of Chiropractic Physicians and Surgeons will be held tonight at the college auditorium, 337½ South Hill Street.
>
> "The College of Chiropractic Physicians and Surgeons was the Southern California College of Chiropractic until last October, when the institution received a charter giving it the privilege of including with the regular chiropractic course an additional physicians' and surgeons' course and extensive training in electrotherapy and physiotherapy."

Readers of California and Western Medicine may come to their own conclusions in all this.

Complete Story of Texas Fever Ticks Told in University of California Book. — The first complete life story of the "germ" which goes through two generations of blood-sucking ticks and then infects stock with the dreaded Texas cattle fever, has just been written and published at the University of California.

Following up the work of Theobald Smith, director of the animal pathology division of the Rockefeller Institute for Medical Research, and of other noted scientists, the California study gives a detailed description of the way that this germ, *Babesia bigemina,* is able to pass from a parent tick to the eggs of the developing young.

The author of this study is Dr. Emery W. Dennis, who was granted his doctor of philosophy degree at Berkeley in 1931, and who is now professor of parasitology in the Rockefeller-supported medical school of the College of the Near East in Beirut, Syria.

Almost forty years ago, Theobald Smith, as a young graduate of Cornell and the Albany Medical School, startled the scientific world by proving that Texas cattle fever was transferred from cow to cow by the bite of the widely known cattle tick, which science calls *Margaropus annulatus.*

This discovery explained the mystery of why cattle in the southern states never died of the disease, while cattle in the northern states, as soon as they were brought in contact with southern cattle, took the disease, suffered and died. All southern cattle, raised where ticks were numerous, received mild infections while young, and thereafter were immune. But northern cattle, raised in tick-free districts, were very susceptible to infection when brought in contact with the tick-carrying southern cattle while being prepared for shipment to eastern stockyards.

The "germ" of Texas fever is found in the blood stream of southern cattle. While living in immune cattle the germs lead a quiet, conservative existence and multiply by dividing themselves in half. But when a tick bites such a steer or heifer, the germs are absorbed into the tick's stomach and there undergo a change in their method of reproduction. In place of the highly primitive system of dividing in half, a more complex method of sexual reproduction is adopted. Hundreds of zygotes, or potential germs, are formed and these penetrate to every part of the tick's body, including the developing eggs of the mother tick.

The mother tick lays these infected eggs in the grass and there the young ticks develop. But as they develop the Texas fever germ develops with them, and localizes in the young tick's salivary glands. Eventually a cow walks through the grass, the tick makes a wild scramble for the cow's legs, bites the cow, and thereby passes the cattle fever germ along for the start of another life cycle.

In order to complete this study, Doctor Dennis gathered ticks from Texas, Florida, Arkansas, and Louisiana. The germ of Texas fever is less than one-one-hundredth of an inch in diameter, and the tracing of its course through the tick is a delicate task even with powerful microscopes. This work was done in the zoölogy department's protozoölogical laboratory under the direction of Professor Charles A. Kofoid.—*University of California Clip Sheet,* February 29, 1932.

Reform of the Overloaded Medical Curriculum.—At the Edinburgh University Union a remarkable discussion took place on the reform of the overloaded medical curriculum, in which teachers, specialists, general practitioners and students took part. The subject was introduced by a well known teacher, Dr. Chalmers Watson. He stated that at a recent meeting attended by numerous leading medical teachers of Edinburgh no divergent opinion was expressed as to the urgent need to reform the present medical curriculum. Teaching was too largely permeated by the atmosphere of the curative medicine of former days and too little by the modern outlook on preventive medicine. Too little time was available for the student's personal study of practical medicine. He was systematically overcrammed and had little or no time to educate himself. The overweighted curriculum arrested the development of his reasoning faculties. Too few hours were spent in the medical wards, out-patient departments, or dispensary practice. The growth of specialism in the last few decades, with the additional practical and theoretical classes associated with its development had made the curriculum like an overgrown forest. Extensive pruning and the use of the ax were necessary. The interest of the student was too largely directed, on the clinical side, to the end-products of disease, and, on the theoretical side, to an unnecessary wealth of detail which had little or no bearing on his work as a practitioner. The present curriculum was from ten to twenty years behind modern requirements. The experience of general practitioners showed that 90 per cent of their daily work was concerned with general medicine and the remaining 10 per cent with surgical and other specialized subjects. The curriculum should be on lines more appropriate to these figures.—From the London Correspondent, in *The Journal of the American Medical Association,* April 16, 1932.

EDITORIAL COMMENT

This department of California and Western Medicine presents editorial comment by contributing members on items of medical progress, science and practice, and on topics from recent medical books or journals. An invitation is extended to every member of the California and Nevada Medical Associations to submit brief editorial discussions suitable for publication in this department. No presentation should be over five hundred words in length.

Accessory Cytotoxins in Therapeutic Antisera.—The recent alleged demonstration that pure cultures of *T. pallidum* contain a lipoidal fraction immunologically identical with the organ-specific lipoid of the human brain,[1] and that certain strains of the Shiga bacillus also contain an antigenic fraction found also in human tissues,[2] introduces complexities into clinical serology heretofore met with only in certain fields of veterinary medicine. For twenty years theoretical immunology has been dealing with one such overlapping specificity between certain microörganisms and certain veterinary tissues, with a well developed theory of fractional antibodies and fractional cytotoxins with which progressive clinicians must now for the first time become familiar.[3]

This overlapping microbic-veterinary specificity is apparently due to a highly specialized lipoid widely and apparently quite promiscuously distributed among living forms. This lipoid is not found in all micoörganisms, nor in all animal species, nor is it uniformly distributed throughout the tissues or organs of any one species.

The lipoid in itself is apparently nonantigenic, that is, injected into laboratory animals it does not stimulate the production of demonstrable specific antibodies. It does stimulate such antibody production, however, if injected in physical or chemical union with a foreign protein. The resultant lipoid-protein complex apparently leads to the development of an antilipoidal variant of the usual antibody only in animals whose tissues are normally free from this lipoid. Guinea pigs, for example, whose tissues are normally Forssman-positive, i. e., contain this lipoid, do not produce this fractional antibody, while rabbits whose tissues are normally Forssman-negative produce it in abundance.

The presence or absence of the Forssman lipoid in animal tissues apparently determines the toxicity or nontoxicity of this fractional antibody. Injection of an antiparatyphosus rabbit serum into guinea pigs, for example, throws the guinea pigs into fatal convulsions somewhat resembling acute anaphylactic shock. Since horse tissues are normally Forssman-positive, the horse is theoretically incapable of producing this fractional cytotoxin, an antiparatyphosus horse serum being nontoxic for guinea pigs. Since human tissues are normally Forssman-negative the cytotoxin even if present in a therapeutic antiserum would be theoretically nontoxic for man. The demonstration that there are certain other heterophile lipoidal fractions common to microörganisms and normal human tissues suggests that this freedom from clinical toxicity cannot be assumed without adequate experimental evidence for all proposed therapeutic antisera.

Stanford University.

W. H. Manwaring,
Palo Alto.

Fourteen Points for Beginners in the Practice of Medicine:

1. That which is unnecessary is harmful; even a superfluous stitch.
2. Be sure you are right and then go ahead. When in doubt consult your older confrères *before* rather than after the operation.
3. Diagnosis comes first; treatment next; money considerations last.
4. Never scare a patient. Avoid the word "cancer." Call it tumor or growth to him.
5. The patient is entitled to the truth, but only so much as is good for him.
6. Cleanse your thermometer before using it and let your patient see you doing it.
7. Do you wish to win the confidence of your patient? Deserve it!
8. Always be hopeful of your patient's recovery, but do not rely on good luck to pull you through.
9. If you are unable to make a diagnosis at once, try two harmless things: (1) total abstinence from food; (2) one bottle of vichy water. This will give you twenty-four hours to study your case and watch developments.
10. Some cases are best treated by a "masterly inactivity" on the part of the physician. Acute abdomen is the exception. Never give morphin before a diagnosis is made.
11. In taking a history have your patient face the light, and your own countenance in the shade. An ocular duel takes place in which you are to have the advantage. The patient tries to read your thoughts in the expression on your face and you are anxious to read his. Whenever possible take the history yourself and you will get many points to aid you in a correct diagnosis.
12. In trying to locate foreign bodies, never depend upon single radiograms. Always use stereoscopic radiograms. In operating for foreign bodies, do not give up too soon. A probe is at times not only deceiving, but dangerous. Opaque fluids give more correct diagnoses.
13. When you visit your patient, do not let him feel that you are too busy to listen to his unimportant remarks about himself. Ask him if his bowels have moved, and he will know that you are interested in his case.
14. Preach "moderation" to your patients, even though you are not a perfect example of it yourself.

Claremont Hotel.

Emil G. Beck,
Berkeley.

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[1] Whitebsky, E.: Ztschr. f. Immunitäsforsch. u. exper. Therap., 62:35, 1929.

[2] Eisler, M.: Ibid., 67:38, 1930.

[3] For a summary of present knowledge of this overlapping specificity, see: Bull, C. A.: "Heterophile Antigens and Antibodies," the Newer Knowledge of Bacteriology and Immunology, Chap. 53, p. 733, 1928. University of Chicago Press.

C. M. A. DEPARTMENT OF PUBLIC RELATIONS

An open forum for progress notes on the department's activities, and for brief discussions on medical economics. Correspondence and suggestions invited. Address Walter M. Dickie, Room 2039, Four Fifty Sutter Street, San Francisco. This column is conducted by the Director of the Department.

A MESSAGE FROM THE COMMITTEE ON PUBLIC RELATIONS

Public Relations Committee and County Hospitals. The tendency in some counties of our state to admit to the County Hospitals, supported by the taxpayers, friends and supporters of county officers who are amply able to pay for the cost of sickness has become an evil that has aroused the indignation of those who have had to pay the bills, namely, the taxpayers.

There can be no doubt that the intention of the law is to provide medical care and hospitalization free of charge only to those who are indigent and destitute. When one considers how rapidly during the past few years the values of properties have been fictitiously increased for the purposes of assessment while at the same time the tax rate in every county in the state has been jumping upward, doubling and quadrupling, it is easy to understand the reason why one gazes at the appalling list of unpaid taxes which is the first step toward confiscation of property by the county.

From all over the country there is an insistent demand for the reduction of the cost of government and in spite of the fact that the medical profession renders in many of these institutions a practically free service, and in those counties where the profession is paid anything the amount is so insignificant that it cuts no figure in the cost.

In some instances the demands upon the county treasury have grown higher and higher as the result of the reckless and unnecessary expenditure of funds which in the end is to supply hospital service for the friends of the political supporters of certain of the county officials.

The protest of the taxpayers is insistent and growing, and the Public Relations Committee of the California Medical Association has rightfully made an investigation of the situation, one of the outstanding features of its program, and the profession all await with keen interest a report of their findings and the remedies adopted for the correction of this abuse.

(Signed) John H. Graves,
Chairman.

ADMISSION OF PART-PAY PATIENTS TO COUNTY HOSPITALS

The director of the Department of Public Relations is indebted to Dr. C. G. Hilliard, chairman of the Committee on Public Relations of the San Bernardino County Medical Society for the following report on the method that is now in vogue for admission of patients to the County Hospital. We hope that the success that has been attained in San Bernardino County will stimulate other county societies to put in operation some plan whereby patients will be admitted through an advisory board appointed by the Board of Supervisors rather than the prevailing method of patients being admitted by members of the Board of Supervisors. The report follows:

San Bernardino County Plan.—"The practice of admitting part-pay patients to the County Hospital has been in the past a source of irritation to the medical profession, but due to the political aspects seemed difficult to correct. When the taxpayers became aroused this winter and began looking about for ways to cut expenditures, it seemed an opportune time to the medical society to attempt a correction of this abuse, particularly as it could easily be shown where considerable money could be saved the taxpayers.

"It was suggested to and accepted by the Board of Supervisors that the medical society should appoint a medical advisory board, one member from each supervisorial district, who should act in conjunction with the board. No patient other than emergency should be admitted to the County Hospital who did not have a letter from his family physician or the member of the Advisory Board from that district recommending admission. In addition, the patient should be interviewed at the County Hospital by a representative of the County Welfare Commission and should sign a statement setting forth in detail his financial status as well as the age and occupation of those dependent upon him. This procedure rather effectually weeds out those not entitled to treatment. An added check is made by having the hospital mail each member of the Medical Advisory Board a daily list and a summarized monthly list of all new admissions, giving name and address of the patient and name of the doctor recommending admission.

"If a patient is found able to pay something toward hospitalization, that patient is referred back to the medical advisor of his district and the advisor endeavors to find some way of having the patient cared for in a private hospital of his district by getting reduced rates at the hospital, or even getting the benefit of some hospital aid fund if the patient seems worthy.

"Of course, that necessitates the attending physician or surgeon frequently having to donate his services, but occasionally he may even receive a very modest fee. It is rather gratifying to us to find how often the patient is able to pay a small fee which will care for a reduced hospital rate and how glad they are not to be considered charity cases.

"Confinement patients frequently can raise fifteen to twenty dollars and can be delivered at home. We have no trouble in finding capable young doctors who are glad to undertake such a case to the everlasting benefit of the patient and the doctor. We find also many other minor cases that can be satisfactorily cared for at home, and we believe that we are preventing much pauperization in that way. Of course the medical advisor sees to it that cases which require hospitalization shall receive it either at a private hospital at rates that they can afford to pay or at the County Hospital.

"Since this régime has been in effect, the population of the County Hospital has been very materially reduced, both in in-patients and in the out-patient clinic; and an estimated saving to the taxpayers of about 26 per cent for the coming fiscal year is assured. This is not entirely by reduction of expected number of patients, it is only fair to state, but also by other economies which have been suggested in good part by the Medical Advisory Board.

"It is our hope that when the present County Hospital reaches its capacity we can induce the supervisors to subsidize the existing private hospitals for the care of the county cases up to the actual cost per day for the patient if he were to be taken to the County Hospital. We believe this plan has many advantages if properly safeguarded.

"Another accomplishment of this board has been the change of the name of the San Bernardino County Hospital to that of the ***San Bernardino County Charity Hospital.*** Many citizens felt that inasmuch as this was a County Hospital supported by tax money and the resident medical staff was paid by the taxpayer, he, the taxpayer, was entitled to free treatment there. The change of the name brought it rather forcibly to their attention that they are paying for care of the county charity cases only.

"Previously all county employees were entitled to free hospitalization, whether indigent or not. This rule has been rescinded and employees are now on the same basis as all other residents except for industrial accident cases among employees of the county, which are still cared for free.

"The only part-pay patients received at the County Hospital now are those suffering from the contagious diseases which are not accepted by the private hospitals of the couity. Some of these are able to pay for their care in whole or in part, and are expected to do so.

"The County Medical Society has been fortunate in having a very conscientious and public-spirited Medical Advisory Board, which has labored long and hard on this problem. The board has the full support of the medical society and the confidence of the Board of Supervisors and the Tax Coördinating Committee, and because of this has been able to accomplish much."

* * *

National Health Insurance Profits.—Under the National Health Insurance Acts of Great Britain employed persons numbering fifteen million are required to take out state insurance for health purposes. This applies to all persons employed in manual labor and others whose pay does not exceed $1200 a year.

The medical service does not include that of the specialist, nursing or laboratory service, but only that which the general practitioner is qualified to give. Those services which are outside the practitioner's insurance obligations are set forth.

From the last report of the Royal Commission on National Health Insurance we find some interesting figures. Medical benefits are provided for fifteen million people at a cost of forty-five million dollars a year of which thirty-five million dollars goes to the doctor and ten million dollars for drugs and appliances. The average visits per patient is seven and the average per person insured is three and a half. The doctor averages 68 cents per visit or approximately $6.50 per day or $2372 per year.

The commission estimates that it would take approximately six and a quarter million dollars additional to provide the necessary service of the specialist, bedside consultant and laboratory aid. Without going into the quality of the medical service, one must be impressed with the large amount of work the doctor is called upon to perform and the small remuneration for his services.

* * *

Medical Social Service.—The president of one of our local societies has put forth a plan for graduating the cost of medical care to meet the individual's financial status, with the idea of taking care of that large group of citizens whose income is not sufficient to permit them to pay the regular physician's fee. It is proposed that a central bureau shall be organized by the County Medical Society and placed in charge of an experienced social worker, and all families whose income falls below a certain amount or who constitute the laboring and working classes shall make application to this bureau for medical service after a careful investigation by the social worker, whereupon, after a thorough investigation of the applicant's financial standing a report is forwarded to the secretary of the society and a rate is set which is deemed fair to the individual or his family; and he is issued a card on which his rating is set forth in code. This card would be good for medical treatment by any physician in the society for a period of three months, said services to be paid for in cash according to the rating that has been given the individual patient on his card, which might be one-fourth, one-third, one-half, two-thirds, or three-quarters of the particular fee set by the society.

Hospitals, drug stores, clinical laboratories, x-ray laboratories and, if possible, the dental society would be included in this plan. In addition to the following, it would be possible for the patient to receive aid in financing his hospital and doctor bills. This would be made possible through a financing corporation for the sum of one-tenth of the principal sum as a financing charge, thus enabling the physician to receive his fee in cash, less the 10 per cent charge of the finance company.

* * *

Conclusions on the German Compulsory Health Insurance by Frederick L. Hoffman. — "The German experience proves the inadequacy of social insurance as an effective means of securing the required degree of continuous social progress demanded by modern standards of labor and life. The fundamental principle of such progress is social justice and the largest measure of political and freedom consistent with the security, the well-being, and the happiness of all. The German experiment in paternalism and coercion sounds the most convincing note of warning to other industrial countries, where under free institutions, under the ministry of voluntary service, savings, and self-sacrifice, infinitely better and more lasting results have been achieved. It is devoutly to be hoped that the warning will be heeded by the American people and that they will develop a strong and thoroughly effective opposition to any and every tendency toward autocracy, paternalism and coercion, as inherently hostile and fatal to our traditional conceptions of personal and political liberty in a democracy."

Professional Ethics.—At the request of the Colorado State Board of Medical Examiners and with the approval of the Board of Censors of the Medical Society of the City and County of Denver and the Committee on Public Policy of the Colorado State Medical Society, the following suggestions are published editorially.

A large newspaper publishes, about once a year, a "Greater Denver" edition. This includes many pages of photographs of supposedly prominent citizens, with their names and occupations. Each person whose photograph is thus published agrees to pay a certain sum of money to the newspaper. Candidates are supposedly singled out and "invited" to permit such publicity, in the name of civic benefit, but no less than one hundred Denver physicians were importuned for the recent special edition. It is obvious that the newspaper was less solicitous of a candidate's eminence than of his willingness to pay a definite, and not inconsiderable, sum of money.

Any payment made by a professional man to secure publication of his photograph places such publication within the category of advertising. The medical and legal professions interpret this as an impropriety, even though the payment is allegedly for the sole purpose of retiring the cost of publication.

Such a captioned photograph does not constitute a professional card, and if paid for either directly or indirectly it becomes a solicitation of business by advertising, hence a breach of professional ethics. An advertisement is distinguished from a news item in that the former is paid for, directly or indirectly. The amount or form of payment, or what item of cost it is supposed to cover is immaterial.

The Denver Bar Association, through its official publication, *Dicta*, has reprimanded those of its members who subscribed to the recent newspaper edition, a special committee of the association having interpreted the code of legal ethics to show that such publication of photographs constituted unethical advertising.

The Board of Medical Examiners, the Public Policy and Publications Committees of our State Medical Society, and the Board of Censors of the Denver Medical Society, feel that such publicity is equally contrary to medical ethics, and also feel that action corresponding to that of the Bar Association is in order in our own ranks.

It is to be hoped that drastic action in such directions will not be necessary, that, instead, each physician will be ready with a resolute "No" when approached in the future on such publicity projects.—*Colorado Med.*, March, 1932.

STATE MEDICAL ASSOCIATIONS

CALIFORNIA MEDICAL ASSOCIATION*

JOSEPH M. KING	President
GEORGE G. REINLE	President-Elect
EMMA W. POPE	Secretary-Treasurer

OFFICIAL NOTICE

Meeting of the Council.—The fall meeting of the Council of the California Medical Association will be held in Los Angeles, September 24, 1932.

ADDENDA TO EXTENSION LECTURE SERVICE

The following list of films has been prepared by the Committee on Extension Lectures.

For further information, address the Association secretary or the makers or distributors of the films.

I. *Films from the Department of Visual Instruction, University of California Medical School, Third and Parnassus Avenues, San Francisco:*

		Reels	Rental
15-14	Malaria	3	$3.00
24-2	Respiratory System — Urinary System	1	2.50
24-3	Heart and How It Works	1	2.50
24-4	How We Breathe	½	1.00
	The Relation of Nutrition to Dental Health (Castle film, for a limited period with University of California.)		

Eastman medical films, Eastman Kodak Company, Rochester, New York—

	Reels	16 mm.	35 mm.
Acute Appendicitis (Professional)	2	$15.00	$35.00
Treatment of a Normal Breech Presentation	2	15.00	35.00
Tests of Vestibular Function	1	7.50	18.00
Amyotonia Congenita	½	3.75	....
Development of the Fertilized Rabbit's Ovum	1	7.50	18.00
The Normal Heart	1	7.50	18.00
Technique of Blood Transfusion	2	15.00	35.00
Indirect Inguinal Hernia (Anatomical, clinical, operative technique; each reel complete in itself.)	3	20.00	45.00
Intestinal Peristalsis	1	5.00	....
Diagnosis and Treatment of Infections of the Hand	3	15.00	40.00
Rabies	½	3.75	9.00
Ectopic Heart	1	7.50	18.00
Simple Goiter	1	7.50	18.00
Benign Prostatic Hypertrophy	1	7.50	18.00

American Social Hygiene Association, 450 Seventh Avenue, New York—

Social Hygiene for Women	2 reels
The Venereal Diseases	3 reels
Modern Diagnosis and Treatment of Syphilis	3 reels
Gonorrhea in the Male	3 reels

(Purchase or rental. Rental, $1 per reel per day plus transportation charges. 35 mm and 16 mm.)

II. *Films from the American College of Surgeons, 40 East Erie Street, Chicago:*

Extract from letter: "We have considerable information in our files concerning various medical films available, and we shall always be glad to give you any assistance that we can in locating films suitable for your purpose."

American Society for Control of Cancer, 25 West Forty-third Street, New York—

The Canti Film, 35 mm. and 16 mm. .... 2 reels
(Shows life history of living normal and cancer cells and effect of radiation on cancer cell activity.)

The Lewis Film, 35 mm. and 16 mm. .... 2 reels
Shows life history of living normal and cancer cells; cell division; structure; activity; ingestion, etc.

III. *Films from American Social Hygiene Association, 374 Broadway, Albany, New York.*

Deferred Payment (deals with syphilis in drama form), 4 reels, 16 mm. and 35 mm. Rental terms, $4 per day; $20 per week plus transportation charges to and from New York.

Eastman Classroom Films, Eastman Teaching Films, Inc., Rochester, New York—

Diphtheria (public health film), nonrental. Purchase price, $35.

Eastman Classroom Films, Eastman Teaching Films, Inc., Rochester, New York—

Mold and Yeast (public health film). Nonrental. Sale Price, $20 net, f. o. b., Rochester.

Sewage Disposal (public health film). Nonrental. Sale price, $35 net, f. o. b., Rochester.

Tuberculosis and How It May Be Avoided. Nonrental. Sale price, $35 net, f. o. b., Rochester.

IV. *Films from the American Medical Association, Bureau of Health and Public Instruction, 535 North Dearborn Street, Chicago, Illinois:*

Extract from letter: "There are some catalogs published that give very good lists of films. One of these, the so-called "1001—The Bluebook of Non-Theatrical Films," is published by the Educational Screen Company, 5 South Wabash Avenue, Chicago. This contains, under the heading "Hygiene, Physiology and Allied Topics," some two hundred films which are especially good for showing to a lay audience, but including a few for a medical audience. This list sells for 75 cents.

"Three years ago the Metropolitan Life Insurance Company published a film list, which can be had of the National Health Council, 450 Seventh Avenue, New York. It is priced at 75 cents.

"We understand that the Bell and Howell Company, 1803 Larchmont Avenue, Chicago has recently prepared a list of medical movies."

V. *Films from Petrolagar Laboratories, 8134 McCormick Boulevard, Chicago, Illinois. Scientific medical motion pictures with sound:*

No. 13. Anatomy of the Female Pelvis and Perineum .... 2 reels, 35 min.

No. 14. Experimental Gastro-Enterostomy .... 1 reel, 15 min

The above films are by Doctors H. B. Kellogg and W. F. Windle of the department of anatomy of Northwestern University, Chicago.

No. 15. Suspension of the Uterus for Retrodisplacement .... 1 reel, 15 min.

No. 16. Salpingectomy and High Fundic Amputation for Residues of Tubal Disease .... 2 reels, 35 min.

No. 17. Subtotal Abdominal Hysterectomy for Uterine Fibroids .... 2 reels, 35 min.

No. 18. Vaginal Hysterectomy for Uterine Prolapse .... 2 reels, 35 min.

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* For a complete list of general officers, of standing committees, of section officers, and of executive officers of the component county societies, see index reference on the front cover, under Miscellany.

No. 19. Repair of Urethrocele, Cystocele, and Lacerations of the Cervix..................2 reels, 35 min.
No. 20. Repair of Second and Third Degree Lacerations of the Perineus and Rectocele...2 reels, 35 min.
No. 21. Some Features in Hospital Administration..2 reels, 35 min.
Davis & Geck, Inc., 217 Duffield Street, Brooklyn, New York—
Surgical Treatment of Peptic Ulcers, 16 mm. and 35 mm. ....4 reels, 45 min.
Traumatic Treatment of the Extremities, 16 mm. and 35 mm. ....4 reels, 45 min.

VI. *Films from H. A. Metz Laboratories, Inc., 420 Second Street, San Francisco:*

Spinal Anesthesia ....4 reels, 16 mm.
Film is devoid of advertising and is offered without charge. Transportation costs are paid both ways.

THE CANCER COMMISSION OF THE CALIFORNIA MEDICAL ASSOCIATION

"Who Is Susceptible to Cancer?"—During one of his Colver Lectures at the College of Medical Evangelists, Wells made the statement, "The best way to avoid cancer is to die young." In other words, the implication stands that the more people reaching an advanced age the more prevalent is cancer. Slye, in her work, has quite definitely established the fact that cancer follows the Mendelian laws of heredity. Cancer is not inherited, but the tendency is there and, under the stresses and strains of modern life, malignancy crops out. Wells, in the same series of lectures, cited the history of three brothers coming from a cancer family; two smoked and one did not. The two smokers developed carcinoma of the lower lip at forty-five, while the one who did not smoke developed a similar lesion at seventy. Undoubtedly, the familial tendency was there, but the precipitating cause, such as smoking, brought it out early in the first two, and where this was absent the natural evolution of the disease was so slow that had the victim lived a shorter life he would not have been classed as a cancer patient.

The lessons drawn from the work of Slye and Wells emphasize to us that once past middle age everyone must be on the lookout for the appearance of cancer. It comes slowly; it comes painlessly; it has no set of early specific symptoms. Experience teaches that pain appears only when interference of function has taken place, and when this stage is reached the disease is well advanced. When it appears on the surface of the body it is easily destroyed, since it is usually recognized early, but when it appears internally, recognition is ordinarily late.

The textbook symptoms we have of carcinoma of the stomach are the late symptoms, at which time the chances of cure by adequate surgery are very remote. Likewise, cancer of the breast, when clinically recognized with its axillary nodes, is an advanced stage; while early cancer of the breast, where only a small lump is present with no symptoms, is a diagnostic puzzle solved only by exploratory incision and biopsy. The difference in curability in these stages is 20 per cent of five-year survivals in the first instance, and 80 to 90 per cent in the second.

How are we to recognize these malignant conditions early? It is obvious that we cannot wait for symptoms. Recognition can only be reached by regular periodic examinations. Everyone past thirty is a cancer suspect. The older one becomes the more prevalent is the disease. Therefore, examination should be done at least every six months; it should be *thorough*, and should preferably be done by someone interested in cancer or someone experienced in its early recognition. Physical examination alone is not sufficient. Resort to the clinical and x-ray laboratories is absolutely essential. Obviously, then, this becomes an economic problem, for upon early recognition depends adequate treatment. Surgery and radiation will cure early cases, but will not save life in advanced cases. Therefore, until we have something further or better to offer, everyone past middle age must be looked upon as a cancer suspect. Periodic examination for early recognition is then the key to early and proper treatment.

Orville N. Meland,
Secretary for Southern California.

COMPONENT COUNTY MEDICAL SOCIETIES

FRESNO COUNTY

The Board of Governors met at the University-Sequoia Club on May 18 at 6:15 p. m. Doctors Aller, Tillman, Scarboro, and Schmidt being present.

The Fresno County Medical Society met with the Fresno County Bar Association at a dinner meeting at the University-Sequoia Club at 6:45 p. m., May 18.

Following the dinner Dr. Joseph Catton of San Francisco, instructor in nervous and mental diseases at Stanford University, gave a very able discussion of the Massie trial and Ruth Judd case. Doctor Catton ably discussed the coöperation which should exist between doctors and lawyers. Those absent missed an excellent meeting.

* * *

A meeting was held of the Board of Governors of the Fresno County Medical Society at the University-Sequoia Club on June 6 at 12:30 p. m., Doctors Scarboro, Schmidt, Schottstaedt, Tillman, Aller, and James being present.

Returned cards for choice of monthly meeting place for the Fresno Medical Society showed the following result: General Hospital, 35; University-Sequoia, 11; Burnett Sanitarium Clinic, 8; Hotel Californian, 7; Hotel Fresno, 3. This made a total of sixty-four votes, with the General Hospital as first choice.

Dr. J. D. Morgan asked permission to meet with the Board of Governors to give a report on the formation of a credit bureau to be used by members of the Fresno County Medical Society. Doctor Morgan stated that this can be handled either through the Merchants' Association or through the Physicians' Exchange at a nominal fee.

Dr. D. I. Aller moved that the Board of Governors approve the report of Dr. J. D. Morgan on the formation of a physicians' credit bureau and that it be brought before the society for adoption, and that a committee be appointed by the president to work out the details of the bureau and report at the next regular meeting. Motion was seconded by Dr. Charles James, and carried.

* * *

The regular meeting of the Fresno County Medical Society was held on June 7 at 8 p. m. at the General Hospital, with about fifty members present.

Application for membership by Dr. Victor E. Campbell, 720 T. W. Patterson Building, Fresno, was read. Action will be taken at the next regular meeting.

Dr. Thomas Madden gave a brief report as a delegate to the state convention at Pasadena.

Dr. J. D. Morgan explained to the members the formation and working of a credit bureau for members of the society. There followed a general discussion. This bureau can be handled either through the Merchants' Association or the Physicians' Exchange.

Dr. G. A. Hare made a motion to appoint a committee, with the president as chairman and the Board of Governors to work out the details of the formation of a credit bureau. This was lost for want of a second.

Dr. E. R. Schottstaedt moved that the motion of the Board of Governors be approved and a committee of five be appointed to work out the details. Motion was seconded by Dr. D. H. Trowbridge, and carried.

The business session was followed by a very able discussion by Dr. Clifford Sweet of Oakland on *The*

Child as a Patient. Doctor Sweet is a forceful and convincing speaker and handled the topic in a most pleasing manner.

Elmer J. Schmidt, *Secretary.*

ORANGE COUNTY

The members of the Orange County Medical Association held their regular monthly meeting on Tuesday, June 7, in the chapel of the County Hospital. Dr. J. L. Maroon, president, called the meeting to order at eight o'clock, with approximately forty members present.

The report of a special committee, Doctors Harwood, Baker, and Yeagle, for the investigation of the serious sickness and disability of Dr. B. F. Mock of Santa Ana, was made by its chairman. The report of this committee was accepted and it was moved, seconded, and carried that the committee be discharged.

Announcement was made by the secretary that an order of the official American Medical Association automobile emblems, with special design of Orange County imprint, would be made provided enough members signified their desire for them. It was suggested that all who wished emblems kindly leave their orders with the secretary.

Dr. R. A. Cushman discussed quite fully the possibility of a permanent meeting place for the Orange County Medical Association and later moved that the chair appoint a committee composed of five members, including the president, to investigate this matter. Motion was seconded by Dr. H. F. Johnston, and unanimously carried.

The first readings on the application of Dr. J. R. P. Nicoll of Santa Ana, Lavon Bramwell of Orange, and Lawrence F. Whittaker, transferred from Los Angeles County, were heard.

The final readings on the application of Dr. Melbourne Mabee and Dr. Francis H. O'Neil were made and, by ballot, they were unanimously elected.

The scientific program for the evening was in charge of the anesthetists, with Dr. R. A. Cushman as chairman. Dr. Arthur E. Guedel of Beverly Hills, who is a well-known authority on the theory and practice of anesthesia, explained the exact depth of the various types of anesthesia required for operative work on bone, eyes, skin, throat, abdominal muscle, nerves, brain, intercostal and unstriped muscle. He explained the exact action during anesthesia, of morphin, scopolamin, the barbiturates, and atropin, and showed by diagram that the amount of anesthetic required is directly proportional to the metabolic rate. Doctor Guedel's paper was discussed by Doctors Price, Cameron, Rumph, Johnston, Burlew, Harwood, and Dexter Ball.

Harry G. Huffman, *Secretary.*

SAN BERNARDINO COUNTY

The regular meeting of the San Bernardino County Medical Society was held at the Patton State Hospital on Tuesday, June 7.

Dinner was served at 6:30 p. m. Eighty-six members and guests were present and more arrived for the meeting which followed in the main hall at 7:40.

After the president called the meeting to order, applications for membership for Dr. A. D. Neubert and Dr. M. G. Beaver were voted on and accepted.

The program was then turned over to Doctor Webster, who, following a brief address of welcome, introduced Doctor Pond of their staff, who read a paper on *The Psychosis and Its Treatment in General Practice.* This included a case report and a general discussion from the floor.

Dr. Aaron J. Rosanoff of Los Angeles then presented a paper entitled *The Genetic History of Human Intelligence.* This original work was thoroughly appreciated.

The meeting concluded with a general discussion of the methods of coöperation between the general practitioner and the hospital.

E. J. Eytinge, *Secretary.*

SAN JOAQUIN COUNTY

The stated meeting of the San Joaquin County Medical Society was held Thursday evening, May 12, at 8:30 p. m. in the Medico-Dental clubrooms at 242 North Sutter Street, Stockton. The meeting was called to order by President George H. Sanderson.

Dr. J. E. Barnes, delegate to the state convention, gave a comprehensive report of the sixty-first meeting in Pasadena. His report was amplified by a report from Dr. R. T. McGurk. His remarks on the large x-ray laboratory at the California School of Technology were especially interesting.

The matter of erecting a bulletin board in the clubrooms was discussed. Motion made by Dr. Barton Powell, Sr., that it be erected was duly seconded, and carried.

The first paper of the evening was read by Dr. Rulon Tillotson on the subject *The Nasal Accessory Sinuses as Sources of Infection.* He sketched the history of our present knowledge of sinus disease. Then he went into the matter of sinus disease as a factor in other conditions. He felt that abscessed teeth, diseased tonsils, and infected prostates are often to blame as focal infectious points.

In relation to bronchial conditions the sinuses may often be the cause, and the condition yields when the sinuses are cleared. Again, in many cases the pulmonary disease is in no way related. In bronchial asthma the nasal sinuses are diseased in 75 per cent of the cases. Retrobulbar neuritis, when due to disease of the ethmoids and sphenoids, clears up in forty-eight hours after eradication of the pus.

Dr. George N. Hosford of San Francisco spoke on *Yellow Oxid of Mercury Salve (Pagenstecher's Ointment)—Its Use and Abuse.* The doctor demonstrated the inefficiency of the substance as an antiseptic, and because of the hard crystalline character of the mercury salt, the irritant effect it had on the cornea of the eye. He finds that it actually delays recovery in corneal ulcer by keeping the ulcer open. He felt that the medical profession prescribed it indiscriminately, paying little attention to the actual indications for its use.

In place of this remedy he felt that the one per cent holocain and adrenalin ointment would much oftener give good results.

The discussion was led by Dr. Barton Powell, Sr., followed by Doctors McGurk and Sheldon.

Meeting was adjourned and refreshments served.

C. A. Broaddus, *Secretary.*

SANTA CLARA COUNTY

The regular monthly meeting was called to order by President Fagerstrom in the San Jose Medico-Dental Building auditorium on the evening of May 20.

The application of Dr. Olga Loos-Rosasco of Saratoga for membership was read and referred to the Admissions Committee.

The following physicians, having been favorably recommended by the Admissions Committee, were elected into the society: Dr. B. H. Wardrip (transfer from Lassen-Plumas County Society), Dr. Roland G. Breuer, and Dr. Lee M. Watanabe, all of San Jose.

The Nominating Committee reported the nominations for officers of the Santa Clara County Medical Society of the following: President, James B. Bullitt; first vice-president, R. S. Kneeshaw; second vice-president, Blake C. Wilbur; third vice-president, Roland H. Prien; secretary, Lucas W. Empey; assistant secretary, Donald Threlfall; treasurer, Harry J. Hoag; councilors-at-large, D. P. Fagerstrom, George L. Barry, and Carl Pelkan.

Doctor Bullitt moved that a committee of three be appointed to meet with the Council of the California Medical Association at its next meeting in order to further the plans for the working out of a proposed health insurance plan for Santa Clara County. The motion was carried and the following appointed: Drs. John H. Shepard, George L. Barry, and James B. Bullitt.

The remainder of the meeting was placed in charge of Dr. John H. Shepard, chairman of the Medical Economics Committee, who outlined an original plan for medical insurance which might be sponsored by a county society, and introduced the following speakers, who discussed various phases of the health insurance problem: Dr. Walter M. Dickie, Director of the Department of Public Relations, California State Medical Association; Dr. Morton R. Gibbons, Councilor of the California Medical Association; Mr. Hartley F. Peart, General Counsel of the California Medical Association.

After a discussion of the proposed plan by several members of the society the meeting adjourned.

* * *

The June 15th meeting of the Santa Clara County Medical Society, held at Palo Alto Hospital, Palo Alto, was the annual meeting of the society.

The following officers were elected: James B. Bullitt of San Jose, president; R. S. Kneeshaw of San Jose, first vice-president; Blake C. Wilbur of Palo Alto, second vice-president; Leland H. Prien of Gilroy, third vice-president; Earl O. G. Schmitt of San Jose, secretary; Donald R. Threlfall of San Jose, assistant secretary; Harry J. Hoag of San Jose, treasurer. Councilors-at-Large: D. P. Fagerstrom, George L. Barry, and Karl F. Pelkan.

The members were the dinner guests of the Palo Alto Medical Society, with Dr. Dell Lundquist of Palo Alto in charge. After the dinner, Dr. Arthur Bloomfield, professor of medicine, Stanford Medical School, spoke on ***The Question of Gastric Analysis in Relation to Disease,*** following which Doctor Clark of Oakland showed a series of personal films and colored pictures which had been taken in the various national parks of the United States.

E. O. G. Schmitt, *Secretary.*

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SONOMA COUNTY

The regular monthly meeting of the Sonoma County Medical Society was held at Hotel Petaluma, Petaluma, June 9, at 7 p. m., twenty-eight members and guests being present.

After the dinner and the transaction of regular business, a program by members of the staff of the Merritt Hospital, Oakland, was presented as follows: Dr. A. A. Alexander, *Modern Views on Hypertension*; Dr. Whitfield Crane, *Kidney Hazards in Surgery*; and Dr. R. L. Glenn, *Interpretations of Kidney Functional Tests.* They were all able papers and well received.

In addition to the doctors who presented the program the following physicians from Oakland were guests: M. L. Emerson, W. C. Channel, W. A. Clark, William Sergeant, and D. D. Toffelmier.

The application for membership of Dr. V. E. Johanson was received.

W. C. Shipley, *Secretary.*

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VENTURA COUNTY

The Ventura County Medical Society meeting was held at 8 p. m. on June 14 in the Clinic Building of the Ventura County Hospital, Dr. Sterling Clark presiding.

Members present were: Doctors W. S. Clark, Charles Smolt, Lillian Smolt, Felberbaum, D. G. Clark, Mosher, King, Rey, Coffey, Welsh, Little, Kendall, Armitstead, Bianchi, Homer, Strong; and the attendant guests, Doctors Ullmann and Henderson of Santa Barbara.

Doctor Little's professional card was submitted and approved.

The application of Doctor Francis of Oxnard was presented. Doctor Oxnard was voted into the society unanimously.

The Petrolagar talking film on the anatomy of the female pelvis and perineum was shown, and also one on the repair of retrocele and laceration of sphincter ani. Both proved very interesting.

Doctor Ullmann of Santa Barbara, presented a prospective plan for county health insurance, which was discussed by the members of the society.

Doctor Bianchi was appointed program chairman for July.

Artemas J. Strong, *Secretary.*

CHANGES IN MEMBERSHIP

New Members (25)

Alameda County—Alexander Hamilton Griffith.

Fresno County—Warden T. Barr.

Los Angeles County—

Henry C. Crozier
Henry L. Dixon
Lorin V. Hillyard
George H. Houck
Jose Renato Lacayo
A. S. Lineer
Charles A. McDowell
William H. Scoins
Ann Dumont Staatz
Henry D. Stailey
James G. Van Scoyoc

San Diego County—E. F. Birkenstock, Lloyd Myers.

Riverside County—Ray B. McCarty.

San Francisco County—Henry Gibbons, III, Samuel A. Goldman, Joseph F. Poheim, Henry C. Rixford, William E. Styan.

Sonoma County—Elmer Thomas Noall.

Stanislaus County—Joyce A. Albert, Leonard O. Wissner.

Yuba-Sutter County—William Lawrence Crutchett.

Resignations (3)

Robert Crees, from Napa County.
Joseph J. France, from Napa County.
Thomas H. Reiss, from Sonoma County.

Transferred (5)

Wilbur J. Cox, from Los Angeles to San Francisco County.

Deon A. Crew, from San Diego to San Luis Obispo County.

Harry C. Nelson, from San Bernardino to Orange County.

Iner Sheld Ritchie, from San Bernardino to Imperial County.

Rodney F. Wood, from San Bernardino to San Diego County.

In Memoriam

Burns, Richard Earl. Died in Castro Valley, May 24, 1932, age 48 years. Graduate of State University of Iowa College of Medicine, Iowa City, 1908. Licensed in California, 1912. Doctor Burns was a member of the Alameda County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

✠

Heppner, Maurice. Died in San Francisco, May 22, 1932, age 39 years. Graduate of College of Physicians and Surgeons of San Francisco, 1916. Licensed in California, 1916. Doctor Heppner was a member of the San Francisco County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

✠

Leas, John Augustus. Died May 26, 1932, age 48 years. Graduate of Indiana University School of Medicine, Bloomington-Indianapolis, 1908. Licensed in California, 1921. Doctor Leas was a member of the Los Angeles County Medical Association, the California Medical Association, and the American Medical Association.

✠

Lockwood, Charles Daniel. Died in Pasadena, June 11, 1932, age 64 years. Graduate of Northwestern University Medical School, Chicago, 1896. Licensed in California, 1900. Doctor Lockwood was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

✠

Milligan, Edward T. Died April 1, 1932. Graduate of Michigan College of Medicine, Detroit, 1892. Licensed in California, 1920. Doctor Milligan was a member of the Los Angeles County Medical Association, the California Medical Association, and the American Medical Association.

✠

Shinohara, Masakichi. Died May 27, 1932, age 49 years. Graduate of Okayama Medical School, Okayama, Japan, 1906. Licensed in California, 1920. Doctor Shinohara was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

✠

Walker, Agnes. Died in San Francisco, June 6, 1932, age 59 years. Graduate of Cooper Medical College, San Francisco, 1893. Licensed in California, 1894. Doctor Walker was a member of the San Francisco County Medical Society, a retired member of the California Medical Association, and a Fellow of the American Medical Association.

✠

Whiteway, Harold Morse. Died June 7, 1932, age 67 years. Graduate of University of Pennsylvania School of Medicine, Philadelphia, 1899. Licensed in California, 1900. Doctor Whiteway was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

✠

Wylie, Daniel Baldwin. Died May 22, 1932, age 70 years. Graduate of University of Illinois College of Medicine, Chicago, 1888. Licensed in California, 1917. Doctor Wylie was a member of the Monterey County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

OBITUARY

Walter Edward Smith died after a short illness from pneumonia on April 24. A sturdy, hard-working member of the profession, Doctor Smith passed away in the prime of life. The fact that he had been working especially hard, never stinting himself to worthy or unworthy, no doubt played a great part in his last illness. He had been worn out for months, but, like many of his type, never felt he could take any real vacation.

Doctor Smith was born on a farm near Janesville, Wisconsin, in 1882. After attending the Janesville High School, he entered the University of Wisconsin, where he pursued a course in civil engineering for three years. Deciding then to study medicine, he entered the medical department of the University of Toledo, earning his way and supporting his family by drafting at night for the American Bridge Company of Toledo. He was permitted to work at his own convenience because his employer told his wife he "never made a mistake." A few months ago he and his former employer joked about how close to this standard he came as a physician.

His postgraduate work consisted of one year internship at Lucas County Hospital, Toledo, some clinic work at Stanford and, recently, the teaching of anatomy at the College of Physicians and Surgeons of San Francisco.

Besides a busy general practice, he found time to superintend a Christian Bible School and run a vocational guidance service gratis, for young men and women.

Walter Edward Smith
1882-1932

Without a wide intimate acquaintanceship, perhaps, in his profession he was a dear friend and "good doctor" to a large group of people. Many people looked upon him as their personal medical adviser, friend, and counselor in all their problems. He was dignified but intimate with his patients. The one description of him given by each of his patients has been that he was "a good man." Patient, kind, capable, hard-working, honest, and "good" were his outstanding characteristics.

Doctor Smith is survived by his wife, Sada Jordan, to whom he was married twenty-four years June 26, 1931. The children are Ora Scott, Walter Edward, Jr., David Eugene, and Donald Jordan.

Certainly the profession and the community were greatly benefited by his life.

The society extends the family its sympathy.

C. C. PORTER, M. D.

THE WOMAN'S AUXILIARY TO THE CALIFORNIA MEDICAL ASSOCIATION*

Official Message from the President.—As the new president of the Woman's Auxiliary to the California State Medical Association I greet you.

Those of us who were privileged to attend the state convention in May will not soon forget the marvelous way in which every detail was handled—every want anticipated. Mrs. Philip Schuyler Doane, convention chairman, has set a standard that will be difficult to maintain, impossible to surpass.

The friendliness that enveloped each member the moment that she entered her room, where the Los Angeles County Auxiliary had said it "with fruit as well as with flowers," was maintained throughout the entire convention. This tempo was felt again in the business sessions, where friendliness and efficiency were so adroitly blended. The gracious and efficient manner in which Mrs. William H. Sargent presided could not but please the most exacting.

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* As county auxiliaries to the Woman's Auxiliary of the California Medical Association are formed, the names of their officers should be forwarded to Mrs. Louis H. Dyke, chairman of Publicity and Publications Committee, 6008 Rose Street, Oakland. Brief reports of county auxiliary meetings will be welcomed by Mrs. Dyke and must be sent to her before publication takes place in this column. For lists of state and county officers, see advertising page 6. The Council of the California Medical Association has instructed the editor to allocate one page in every issue for Woman's Auxiliary notes.

If there were any who felt that the auxiliary was a barnacle this thought was dispelled upon hearing the inspiring reports of the auxiliary president, committee chairmen, and county presidents. Such unison of effort proved conclusively that the auxiliary is destined to be a vital force and ally to the medical profession. Power is collective energy; the energy and enthusiasm of each county auxiliary being the measure of the power of the state organization. Power is destructive unless harnessed and is valueless except as it is driven over a charted course. The American Medical Association, California State Medical Association, and the county societies act as a harness, and guide our energy into a chosen path by their direction and ratification of our plans and activities.

The goal which Dr. Lyell C. Kinney set for us four years ago is an ambitious one. To Doctor Sweet we are indebted for an addition to this goal, the task of holding high the torch of idealism; and to Dr. Joseph M. King we acknowledge an enlargement of the task in his challenge to larger service.

We weigh our assets and gladly accept the challenge, asking only for guide-posts along the way.

May I ask that each county auxiliary strive earnestly to perfect its organization, seeking to establish new values in its programs and its service, and in a friendliness that will glow with warmth and sincerity, ever conscious that only through this effort toward perfection can we form the perfect link and establish ourselves as an accepted medium between the medical profession and the laity.

Bessie Randall Coulter
(Mrs. Frank Edwin)

* * *

Component County Auxiliaries

Orange County.—The regular April meeting was held at the home of Mrs. Kenneth Sutherland on the 15th.

Mrs. Curry, as chairman of the Hygeia Committee, quoted a resolution from the House of Delegates of the American Medical Association which stated that *Hygeia* is a valuable means of educating the laity as to health problems and urged our organization to do everything possible to put this publication before a variety of groups. It was moved and seconded that each member be responsible for one new subscription by May 1. A motion that *Hygeia* be sent to each of the following not already subscribing, Y. M. C. A., Y. W. C. A., and the city and county libraries, was made.

The business meeting was then adjourned. Mrs. Coulter introduced Dr. H. A. Johnston of Anaheim, who gave a very informative talk on cancer. His talk included history and changes in method of treatment in the last two thousand years.

Mrs. Dexter Ball read the new county constitution as proposed, and discussion of the various articles and sections led to a few changes.

The following delegates were elected to the annual convention in Pasadena: Mrs. Dexter Ball, Mrs. Hiram Curry, Mrs. D. C. Cowles, and Mrs. R. P. Yeagles; and as alternates, Mrs. Milo K. Tedstrom, Mrs. John Ball, Mrs. R. A. Cushman, and Mrs. E. J. Steen.

Mrs. Coulter gave a brief résumé of the convention program and suggested that as many as could, try to be present on Wednesday afternoon at the president's tea to be held in the Huntington gardens.

* * *

The regular May meeting of the Orange County Auxiliary was held at the beach home of Mrs. G. I. Sellon. The meeting was called to order by Mrs. J. I. Clark because of the illness of Mrs. Ball. Twenty members were present. Dr. and Mrs. Cutter were guests.

The Hygeia Committee reported having received fourteen subscriptions to the magazine.

Reports were received from the delegates to the annual convention at Pasadena.

Mrs. Coulter, the new State President, appointed Mrs. Curray as Corresponding Secretary.

Dr. Cutter, from the Pacific Colony, at Spadra, was introduced by the program chairman. He spoke on Mental Hygiene. An historical sketch of the education and mental hygiene of children was the substance of his talk.

Tea was served at tables under beach umbrellas on the lawn.

* * *

The regular June meeting was held in the Santa Ana Country Club on June 7.

The meeting was called to order by the president, Mrs. Ball. Reports were given by the chairmen of the various committees. Mrs. Nelson and Mrs. Westerhout were introduced as new members.

The guests present were: Mesdames Bailey, Smith, Westland, Reck, Wallace, Thompson, Roy, Henderson, Dysinger, Snyder, Morse, Terrell, Hainlin, Jongewaard, Sisson, and Misses Parker, Nemo, and Mulford.

Mrs. Von Wedelstaedt of Los Angeles invited this auxiliary to a meeting of the Los Angeles Auxiliary on June 20.

Mrs. Ball urged members to subscribe to *Hygeia*; also to read California and Western Medicine, announcing that there will be an open discussion of articles in the Journal at each meeting. She said that state and national dues will continue to be fifty cents.

Plans to entertain the doctors were discussed. It was moved and seconded to give a banquet for them in November. Each member was asked to earn one dollar before that time to go toward expenses of same.

Mrs. Coulter presented the members with programs for the year.

Dr. Newell Jones of Los Angeles was introduced as the speaker. He gave an instructive and interesting talk on infant feeding.

Our president told the guests that our main interest is "aid" to the medical profession and the lay public and friendliness among members and the public.

Mrs. May sang a group of delightful spring songs. She was accompanied by Mrs. Charles Nahl.

Mrs. Dexter Ball was presented with a gift from the auxiliary by Mrs. Cowles.

After adjournment, tea was served by the hostesses, Mrs. Maroon, Mrs. Theron Johnston, Mrs. Hollingsworth, and Mrs. Wood.

Mildred Tedstrom, *Secretary.*

* * *

San Diego.—The regular monthly meeting of the Woman's Auxiliary to the San Diego County Medical Society was held on May 10, with the newly elected officers presiding.

Mrs. Charles Howard, president, read the winning essay on "Educating the Doctor's Wife."

Parts of the constitution were read—the purpose of the organization and the membership section—in order to remind the old members and to enlighten the new ones. Each member was asked to consider herself one of the membership committee. The program consisted of a review of Dutton's book, "Samaritans of Molokai." The reviewer, Mrs. H. P. Newman, gave an account of the efforts and sacrifices of the two men to procure medical aid as well as sanitary living conditions for lepers in the Hawaiian Islands.

* * *

Santa Barbara.—The regular meeting was held in the auditorium of the Knapp School of Nursing, Cottage Hospital, on May 9 at 8:15 p. m., with nine members present, Mrs. Eaton, the president, presiding.

Dr. Edward J. Lamb described the work of the Cornelia M. Moore Free Dental Foundation. Dr. Clyde A. Emory told about the county dental work.

Mrs. A. E. Koehler played several piano solos. Delegates to the convention gave several very interesting reports. Decision to adjourn during the months of July and August was had.

MISCELLANY

Under this department are ordinarily grouped: News; Medical Economics; Correspondence; Twenty-five Years Ago column; Department of Public Health; California Board of Medical Examiners; and other columns as occasion may warrant. Items for the News column must be furnished by the fifteenth of the preceding month. For Book Reviews, see index on the front cover, under Miscellany.

NEWS

Coming Meetings—

American Medical Association, Milwaukee, Wisconsin, 1933, Olin West, M. D., 535 North Dearborn Street, Chicago, Secretary.

California Medical Association, Del Monte, April 24-27, 1933, Emma W. Pope, M. D., 450 Sutter Street, San Francisco, Secretary.

American Board for Ophthalmic Examinations.—American Board of Ophthalmic Examinations will hold an examination in Montreal on Monday, September 19, 1932, at the time of the meeting of the American Academy of Ophthalmology and Otorhinolaryngology.

Necessary applications for this examination can be procured from the secretary, Dr. William H. Wilder, 122 South Michigan Avenue, and should be sent to him at least sixty days before the date of the examination.

New York Polyclinic Medical School and Hospital. The Marine Roof atop the new wing of the New York Polyclinic Medical School and Hospital was opened on Thursday, May 26, at 3 p. m. The Honorable Grover A. Whalen, general chairman of the George Washington Bicentennial, New York City Commission, officiated. The ceremonies were attended by about three hundred persons.

The 1932 Graduate Fortnight of The New York Academy of Medicine.—Tumors, benign and malignant, will be the theme of the 1932 Graduate Fortnight of the New York Academy of Medicine. The medical profession of the country is invited to participate in the intensive two-week study of this important medical and surgical subject. The Fortnight will be held from October 17 to the 28th, inclusive. There is no charge for attendance at any of the clinics or meetings, but registration is required for participation in the hospital demonstration clinics. A complete program and registration blank for the clinics and demonstrations may be secured by addressing the New York Academy of Medicine, 2 East 103rd Street, New York City.

Hard-of-Hearing Publication.—*Los Amigos* is a publication brought out by the Los Angeles League for the Hard of Hearing, 2026 West Ninth Street. The Los Angeles and San Francisco leagues are members of the American Federation of Leagues for the Hard of Hearing. They work for a program for the prevention of deafness as well as for the promotion of interest in the study of speech reading. Memberships not restricted to the hard of hearing. Anyone interested is invited to become a member. Their slogan is "Look Up and Laugh and Lift."

Second International Congress, Otorhinolaryngology.—This congress will be held at Madrid September, 1932. Reservation and information regarding the tour and the congress can be secured direct through the office of Marcel Colin, tour director and bonded trustee, 8 Investment Building, National 9109, Washington, D. C., or at any French Line agency throughout the country.

CORRESPONDENCE

Subject of Following Letter: Misrepresentation of a Mr. "H. A. Knap," "Robert Bruce," "Parker Trowbridge."

To the Editor:—I am enclosing a letter from Dr. H. W. Fleming. This man presented somewhat the same story to me about having lost his money in Phoenix and I lent him $25.

I have also received a letter from R. S. Peers, Jr., of Oakland saying that the man had approached him on the street and obtained $5.

I thought you might want to put a note in the official journal of the California Medical Association covering this man's activity.

Yours respectfully,

J. M. Frawley, M. D.

* * *

Dear Doctor Frawley:—I probably had the misfortune to meet Mr. H. A. Knap or Robert Bruce, who called himself Parker Trowbridge at the time of our conversation. He told me he was a McGill graduate and was building a bridge in northern California. He told me on his way down from northern California he had been robbed and he had no money to continue his trip south.

I met him as I was leaving the Children's Hospital and he began his conversation by asking if I knew you. One thing led to another and finally he inquired if I knew any members of the Psi Upsilon college fraternity. Unfortunately he named my fraternity and seemed able to give the grip. I gave him $20 to help him on his way, which he promised to return by check in a few days.

Recently I was telling my experience to Dr. Maurice Groper at Mt. Zion Hospital, and he brought your letter to him to my attention.

I thought you might be interested in my unfortunate experience. No doubt you are aware he used your name to make his approach to doctors.

Sincerely yours,

Howard Fleming, M. D.

Subject of Following Letter: Criticism of a Statement Regarding Cataracts in "Bulletin of Practical Ophthalmology."

To the Editor:—In a recent number of a "Bulletin of Practical Ophthalmology," which is circulated directly to the profession, was an article on surgery of the eye which contained a quotation from Colonel Henry Smith to the effect that no one should attempt cataract extractions unless he is averaging at least two such operations per week. Would the general man agree with the idea if "appendectomy" be substituted for "cataract extraction"?

It would seem worth while, however, that an answer be made to the quotation in a place where it will be seen by approximately the same men to whom the "Bulletin" was sent.

Also it would seem appropriate that the answer be made by one who, if the quotation be true, should not attempt the operation.

To disprove the truth of the quotation, I need only give the results of my last sixty extractions which, needless to say, covered a period many times thirty weeks. They were all private cases, as I have no clinic connections.

The mechanical results will be given first, because an operation itself is a mechanical procedure.

There were only two operative mishaps. One was the loss of a bead of vitreous which did no harm, as the final visual result was 20/30 in the presence of a diabetic fundus. The other was an iridodialysis due to the patient jerking his head at the preliminary iridectomy. This also did no harm, because the visual result was 20/20 part.

One eye was lost from infection. The patient, a diabetic, seventy-eight years old, tore off the dressings, rubbed the eye and opened the wound, which became infected, and the eye was destroyed.

There were no immediate serious complications such as glaucoma, prolapsed iris, etc.

Out of the sixty patients, ten had marked fundus pathology such as myopic changes, macular degenerations (diabetic, nephritic, and senile), and one case of retinal detachment present before operation, which was done merely to increase a visual field.

The following table gives the visual results in the remaining fifty:

	Patients
20/16 full or in part	18
20/20 full or in part	15
20/25 full or in part	8
20/30 full or in part	4
20/40 full or in part	4
Eye lost	1

Several of the 20/30 and 20/40 patients had faint pupillary membranes, needling of which would have improved vision. It was not done because the patients were able to read in comfort.

These results will not suffer by comparison with those of any operator, no matter how many he might do per week. I will admit that when I was doing four operations per week in Manila, twenty-five years ago, I could make a smoother incision, but my final results could not be compared with my present work.

Very truly,
Roderic O'Connor.

450 Sutter Street.

Subject of Following Letter: Editorial on Optometrists in May California and Western Medicine.

The Committee on the Costs of Medical Care
910 Seventeenth Street
Washington, D. C.

May 19, 1932.

To the Editor:—Permit me to call your attention to a number of errors in your editorial in the May 1932 issue dealing with my report, "Midwives, Chiropodists, and Optometrists," one of the publications of the Committee on the Costs of Medical Care.

On page 355, under the heading "Pathetic Example of Incapacity to Understand Standards of Scientific Medicine," you state:

> "But where Louis S. Reed, Ph. D., speaking in print for the Committee on the Costs of Medical Care, shows a seeming and woeful ignorance or incapacity to understand medical practice is in those portions of his survey in which he emphasizes statements that the simpler (?) types of refractive errors do not need highly trained expert knowledge or judgment! *He seemingly forgets or does not know that broad knowledge and training are necessary as a proper foundation for accurate diagnosis; and that he who does not possess such is not in position to know when his services can or cannot be legitimately employed.* (My italics.) It is the old specious plea of the cultists, who secure their legislative recognition by asserting that they treat only a limited number of diseases and these by special methods, and therefore do not require such extensive education and high requirements. It is blissful economic arrangement for those who profit by it, but unworthy of promulgation by spokesmen of the Committee on the Costs of Medical Care."

Now it so happens that my statements in this section of the report are the exact opposite of what is indicated by your comments. Throughout the section I stress the necessity of patients being examined by one who has a general medical training. Thus, on page 57 of the report, I say,

> "It is obvious that optometrists now perform needed services. Nevertheless there are certain valid objections to the present place of these practitioners in medical care. 'The body,' as one physician has said, 'is a whole, one and indivisible, in pathology and for purposes of diagnosis. It can best be cared for by those who understand this and have been broadly trained in all that pertains to the body and its health, so that however they may specialize they have a good understanding of the limits of their specialty and can intelligently advise as to what directions relief from any particular symptom or group of symptoms should be sought.' "

On the following page, I say,

> "Ideally, optometrists, because of the limitations of their present training, ought not to accept patients independently."

And a little further:

> "On the one hand are optometrists not sufficiently trained to diagnose eye conditions. . . ."

It ought, then, to be sufficiently plain that the paragraph of your editorial quoted above is quite without foundation.

In the concluding paragraph of your editorial you impute to me the advice that eye physicians should undertake "the assimilative process into ophthalmology on full professional status, of all the optometrists. . . ." This is certainly your idea, not mine. In speaking of the aspiration of optometrists to become professional people, I simply indicate what their ideas are in the matter, and certainly do not undertake to sponsor those aspirations.

I do not quite see how the suggestion that ophthalmologists utilize optometrists as auxiliaries in the same way that physicians utilize other technical assistants, can be described as the assimilation of optometrists into ophthalmology.

In view of the erroneous statements in this editorial, may I request that you publish this letter in your journal.

Very truly yours,
(Signed) Louis S. Reed.

* * *

Comment by the Editor of California and Western Medicine.—When the California and Western Medicine comments above referred to were written, the editor was quite aware they would probably not appeal to the authors of Volume 15 of the publications of the National Committee on Costs of Medical Care. The comments dealt largely with certain excerpts printed in the May California and Western Medicine, which should indicate whether the editor was right or wrong in his statements. A copy of the May California and Western Medicine was promptly sent to the chairman of the committee, and was acknowledged by Doctor Wilbur.

The editor has no wish to misrepresent the information in Volume 15 on optometrists, as is evidenced by the fact that prior to the publication of the editorial he had also written to the officers of the Section on Eye, Ear, Nose, and Throat of the California Medical Association urging that action be taken by that Section to place a copy of Volume 15 in the hands of every California ophthalmologist. The editor also sent copies of the May California and Western Medicine to the editor of the *American Journal of Ophthalmology* and to Dr. A. E. Bulson, editor of the *Journal of the Indiana State Medical Association.* Doctor Bulson has for many years been very active in the Section of Ophthalmology of the American Medical Association. The editor takes the liberty of printing the following excerpts from replies received from Doctor Post and Doctor Bulson:

* * *

AMERICAN JOURNAL OF OPHTHALMOLOGY

Saint Louis,
May 25, 1932.

" . . . I enjoyed your excellent editorial on the report of the Committee on Costs of Medical Care, with reference to the optical problem. I think your point of view is correct. . . . I congratulate you on your firm stand and thank you for sending me the article.

Very sincerely yours,
(Signed) LAWRENCE T. POST."

* * *

THE JOURNAL OF THE INDIANA STATE MEDICAL ASSOCIATION

June 2, 1932.

"Doctor Bulson directs me to thank you for the copy of CALIFORNIA AND WESTERN MEDICINE which you sent to him. He has just returned from an extended southern trip which included the New Orleans session of the American Medical Association, and finds your letter awaiting his attention.

"He directs me to tell you that he had not seen the last report of the Committee on the Costs of Medical Care, but is much interested in your analysis of it. He has been somewhat disgusted with some of the reports of the committee which, he believes, are biased and which do not always bring out all of the facts. Doctor Bulson believes as you do, that medical editors ought to take more interest in these reports and publish dissenting opinions when the same seem applicable. . . .

Very truly yours,
(Signed) HOPE TOMAN,
Secretary to Doctor Bulson."

ON COMPENSATION TO PHYSICIANS—A SOUTH AFRICAN QUESTIONNAIRE

For Professional Services Rendered in Public Hospitals

In a news letter from South Africa that came into his hands several weeks ago, the editor of CALIFORNIA AND WESTERN MEDICINE read an item concerning a referendum or questionnaire vote that was being carried through by the Medical Association of South Africa on the subject of proper compensation to physicians giving services in public and other services. To secure more definite information thereon, the editor wrote to the Medical Association of South Africa. Below are printed the reply of the *S. A. Medical Journal* and the form blanks received. These may have a suggestive value to American physicians.

* * *

The letter from Doctor Leipoldt, editor of the *South Africa Medical Journal* is as follows:

To the Editor:—We are mailing you the questionnaire of the first and second referendum, but I doubt very much whether this will give you the information you require.

The gist of the matter is that the profession has made up its mind not to do honorary work except in teaching hospitals, where an adequate *quid pro quo* is provided in the shape of advertisement through teaching. Our hospitals are all state-supported, and the smaller ones are merely nursing homes. While the state accepts responsibility for the pauper in everything except sickness (as he is a valuable political asset), we think that gratuitous work is unbusinesslike and unethical.

There are many men educated in English schools and saturated with the English principle of voluntarism who are against the policy of demanding payment, but the majority here favor payment for all services rendered, inclining to the view that the medical man does quite enough private *pro deo* work.

I am interested in your article on overcharging, as our Association is just now considering this question of a uniform scale of fees. Owing to the expanse of country and wide local differences, uniformity will be very difficult to obtain, but I fear we must tackle this matter sooner or later, else we will have scandals here very similar to those to which you allude in your editorial. I shall be glad to exchange journals with you and to put CALIFORNIA AND WESTERN MEDICINE on our exchange mailing list, and trust that you will reciprocate.

Yours faithfully,
C. LOUIS LEIPOLDT, *Editor.*

* * *

The two referendum voting blanks referred to above are as follows:

THE MEDICAL ASSOCIATION OF SOUTH AFRICA
DIE MEDIESE VERENIGING VAN SUID AFRIKA
(British Medical Association)

FEDERAL COUNCIL

Cape Town,
October 13, 1930.

Referendum to Branches and Divisions of the Medical Association of South Africa (B. M. A.) on Payment for the Treatment of "Free" Patients in Public Hospitals.

Note.—The Association has already affirmed the principle of the desirability of payment to medical men treating "part-paying" patients.

"Free" patients in all these questions means patients who make no payment whatever to the hospital.

Question 1.—Is it desirable and expedient that the Association should press for the payment for the treatment by medical men of all "free" patients in all public hospitals in the Union?

Votes: For .... Against ....

Question 2.—Assuming the referendum to be against a policy of payment for the treatment of "free" patients in all public hospitals, is it desirable and expedient that the Association should press for the payment for the treatment of "free" patients in:

(a) General Hospitals with Medical Schools attached.
Votes: For .... Against ....
(b) General Hospitals without Medical Schools attached.
Votes: For .... Against ....
(c) First and Second Grade Hospitals.
Votes: For .... Against ....
(d) Clearing Hospitals.
Votes: For .... Against ....

(N. B.—The terms used are those employed by the Hospital Survey Commission which recommended that public hospitals should be classified in accordance with the following definitions:

(1) A general hospital is a hospital for acute medical and surgical treatment, fully staffed and equipped in its different departments for providing general and specialist treatment.

(2) A first grade hospital is a similar hospital on a small scale, but not equipped for providing all forms of specialist treatment.

(3) A second grade hospital is a similar institution on a smaller scale equipped for dealing with ordinary medical or surgical cases with the intention that cases of special difficulty should be sent on to a larger institution.

(4) A clearing hospital is a small institution which is staffed and equipped for furnishing first aid and dealing with simple cases, major surgery except in cases of emergency and—when possible—serious medical cases being transferred to a larger institution.

Question 3.—Assuming the referendum to be in favor of a policy of payment for the treatment of "free" patients in all or certain classes of hospitals, should the payment be:

(a) On a basis of the services rendered to each individual patient.
Votes: For .... Against ....
(b) By annual salary paid to one or more medical men who would undertake to treat such cases.
Votes: For .... Against ....

Question 4.—Assuming the referendum to be in favor of a policy of payment for the treatment of "free" patients in all or certain classes of hospitals, and that this policy is agreed to by the Provincial Administration, but the latter deny representation to the medical profession on the boards or committees of management of hospitals, which was granted after prolonged opposition solely in recognition of the fact that these services were given free, would the Association be justified to press for such representation.

Votes: For .... Against ....

I certify that the entries of votes under each question of this form are true and correct.

....
Honorary Secretary.
.... Branch/Division.

Personal and confidential.

VOTING PAPER

(1) Resolved, that the Medical Association of South Africa (B. M. A.) take steps to promote the policy of payment to medical men for services rendered to "free" patients

in Teaching Hospitals ....
in General Hospitals ....
in First Grade Hospitals ....
in Second Grade Hospitals ....
in Third Grade Hospitals ....
in Clearing Hospitals ....

(2) Resolved, that the Medical Association of South Africa (B. M. A.) take steps to promote the policy of handing over to the visiting staff of public hospitals a reasonable part of the fees collected from "part-paying" patients

in all hospitals ....
only in hospitals where "free" patients are attended without remuneration by members of the visiting staff ....

(3) Resolved, that the Medical Association of South Africa (B. M. A.) take steps to promote the policy of paying a reasonable proportion of all fees received from paying patients examined or treated by any radiological or physiotherapeutic means to the member of the medical staff who carried out such treatment or examination, unless he be a full-time employee.

Date: ....
Signature: ....

Note.—Write "Yes" or "No" on each of the blank lines. Sign legibly at bottom opposite "Signature" and give date.

Return to: Dr. ....
Address: ....
....

HOSPITAL CONSTRUCTION COSTS

New Acute Unit of the Los Angeles County General Hospital

The following article appeared in the Los Angeles *Times* of June 8 last. The heading, subheadings, and text of the article are as follows:

HOSPITAL COST CITED IN AUDIT

Total on New Acute Unit, $12,724,112.79

General Institution Paid for Out of Taxes

Architects' Fees Placed at $889,315.07

The article itself is as printed below:

A total of $12,724,112.79 has been spent thus far on the new acute unit of the General Hospital, largest institution of its kind in the world, according to figures compiled by County Auditor Payne and turned over to the Board of Supervisors.

According to officials, no further tax levy will be needed to complete the huge structure, which has thirty-five acres of floor space, and only $250,000 will be required from next year's revenue to furnish and equip enough of the structure to care for eight hundred patients. These will be moved to the building some time in September.

HUGE SUMS PAID

According to the auditor's figures, the architects on the committee handling the contracts for the new building have been paid, up to date, $889,315.07 for their services.

The largest sum expended in one item is $2,832,417 paid the general contractors, the Weymouth Crowell Company. The next largest item is one of $1,055,261 paid for structural steel. The architects' bill is third on the list.

The site cost $495,094, but excavation work came to $141,765, and $147,011 was required to fence the grounds.

The elevators cost $427,350; plumbing, $733,261; electrical work, $689,091; cement, $489,876; lathing, $402,741; painting, $128,482; sterilizing equipment, $366,193; hardware, $139,094; tables and lockers, $104,460.

TAXES MET COSTS

A patented material known as terra torrazo placed in hallways and walls cost $438,819, and plastering $342,055. Tile cost $292,035 and linoleum, $140,458. Kitchen equipment cost $107,461.

Walks and driveways cost $44,109 and a sprinkling system for the lawns, $32,095.

According to county officials, with the exception of $2,289,418 raised by a bond issue, the entire cost has been borne by general taxes.

The electric lighting fixtures to cost in the neighborhood of $90,000 are yet to come.

TWENTY-FIVE YEARS AGO*

EXCERPTS FROM OUR STATE MEDICAL JOURNAL

Vol. V, No. 7, July 1907

From some editorial notes:

State Society Secretaries.—One very pleasant and exceedingly profitable evening was spent, at Atlantic City, at a meeting, about the dinner table, of some eighteen or twenty secretaries of state medical societies. The idea was certainly an excellent one, and steps have been taken to make such a gathering a permanent feature of the meetings of the American Medical Association. . . .

Pure Food Commission.—The Pure Food Commission of the State Society, the creation of which was authorized at the last meeting, has organized and begun its work in a very energetic manner. The chairman is Dr. Fitch C. E. Mattison, and the secretary is Dr. George Kress, both of whom may be addressed at the Stowell Building, Pasadena, California. In the last issue of the journal we published an outline of the plan of this commission and of its proposed work. Certainly no more important task presents itself to the physician who is cognizant of the filthy and disgraceful condition of our milk supply than this phase of the work of the commission. . . .

From an article on "The Amplitude of Accommodation at Different Periods of Life, and Its Relations to Eye-Strain" by Edward Jackson, M.D., Denver, Colorado.

Our notions of "eye-strain" are chiefly concerned with strain of accommodation, and strain in maintaining binocular fusion. And it must be admitted that our ideas connected with strain of accommodation are far better developed and more definite than those connected with strain to overcome imbalance of the extra-ocular muscles. Astigmia and hyperopia attain their enormous practical importance through the strain of accommodation that they entail. . . .

From an article on "Aneurysm of the Left Ventricle with Report of Case" by William C. Voorsanger, M.D., San Francisco.

Cardiac aneurysms are of very unusual occurrence, and as such should be looked upon principally as pathological curiosities. By this I mean that they are seldom or never clinically recognized, being found as a general rule only at autopsy. This may be accounted for by the fact that such aneurysms are usually occasioned by myocarditic or atheromatous trouble, and that the clinical signs and symptoms of the former are those of the latter disease.

From an article on "The Differential Diagnosis of Organic from Functional Dyspepsia" by Dr. Dudley Fulton, Los Angeles.

The method in vogue of studying the gastric functions, while advanced over those employed several years ago, are still inaccurate and deficient in diagnosing many cases of dyspepsia. Clinical instances are common with all of us in which, after a gastric analysis, we are still in doubt as to the pathological condition giving rise to the sub- or hyperacidity, or whatever the stomach findings may happen to have been. . . .

From an article on "Throat Infections of Childhood" by Saxton T. Pope, M.D., Watsonville.

By far the most frequent disease of childhood is throat infection. In hospital and clinic work this is not apparent, because of the transitory nature of the disease, and in these institutions we seldom see but the sequelae. No doubt it is due to this fact that medical teaching lays little emphasis upon the subject. Not only are infections of the throat the most frequent disease during childhood, but, in their results, they are among the most serious.

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* This column strives to mirror the work and aims of colleagues who bore the brunt of state society work some twenty-five years ago. It is hoped that such presentation will be of interest to both old and recent members.

Reference Committee on Reports of Officers:

Dr. Philip Mills Jones, California, read the report of the Reference Committee on Reports of Officers of the American Medical Association:

I. President's Address.

(a) Medical Education:

We endorse opposition to the course of certain physicians in organizing or conducting incompetent medical schools, and we believe that the moral weight of this Association, together with the publicity which will eventually follow the work of the Council on Medical Education, will secure the proper uplifting of medical education in the United States. The honest activity of the various boards of examiners, coöperating with the Council, will be of inestimable value in securing this result.

(b) American Medical Association Council on Pharmacy and Chemistry:

We most earnestly commend the work of the Council on Pharmacy and Chemistry and the president's views thereon, and we commend to the Board of Trustees the further and permanent continuance of this work. We most strongly recommend that the members of this association confine their prescriptions to articles contained in the United States Pharmacopeia, the National Formulary, or such as have been approved by the American Medical Association Council on Pharmacy and Chemistry. . . .

CALIFORNIA STATE DEPARTMENT OF PUBLIC HEALTH

By Giles S. Porter, M. D.
Director

"**Trichinosis in California.** — Trichinosis was first recognized as a distinct infection in 1860, and twenty-five years later, in 1886, the first cases of record occurred in California. Dr. W. D. Groton of Susanville reported to Dr. Gerrard G. Tyrrell, secretary of the California State Board of Health, four cases of this disease that had occurred in his practice. The patients were members of an Italian family who had eaten the Italian style of raw sausage. The symptoms of the disease were typical and specimens, which were sent to Dr. Levi C. Lane of San Francisco, proved positive. . . .

"Another case of the disease was reported the same year from Livermore. This case was in a German boy who worked in a butcher shop. The case was attended by Dr. W. S. Taylor of Livermore, who recognized the symptoms as those of trichinosis but who was unable to obtain any history of the patient having eaten pork until the day before the boy died, when he admitted that he had eaten some fresh pork and beef chopped together, seasoned with salt and pepper. He had eaten this mixture raw about one week before his illness began.

"Since that time trichinosis has been reported in California rather consistently, but during recent years the apparent incidence of the disease has been increased greatly. While most cases that have been reported in California, like the first cases in 1886, have found their sources in the consumption of raw sausage, a considerable number of cases have been traced to the use of undercooked pork meat and a wide variety of pork products. In 1930, 151 cases were reported, and in 1931 forty cases were reported. Nearly all of the evidence that has been gathered in connection with these cases shows that the infection came from home-slaughtered pork or home-prepared products eaten raw or insufficiently cooked. In 1932, so far, nineteen cases of this disease have been reported. . . ."

"**Warning Against Eating Mussels Is Issued.**—Laboratory examinations of mussels that have been gathered along the northern California coast indicate that they are poisonous at the present time for human consumption. Individuals who may go to the various beaches along the northern California coast are warned not to eat mussels because of the danger of contracting mussel poisoning.

"Dr. Giles S. Porter, Director of the State Department of Public Health, has placed a quarantine on all mussels within the coast area from Monterey County to the Klamath River in Del Norte County, with the exception of the bay of San Francisco. Poisonous mussels are not found in the bay waters, but they are found in other coastal waters. Under the provisions of this quarantine order, the sale or offering for sale of mussels gathered within the specified areas for the period of May 16 to September 30 is prohibited."

"**The Importance of Mental Hygiene.**—Dr. J. M. Toner, Director of the State Department of Institutions, has issued a mimeographed bulletin to employees of state institutions which bears the title 'An Ounce of Prevention Is Worth a Pound of Cure.' In this publication Doctor Toner states that it is obvious, in view of the rapidly increasing mental problem, that definite measures of prevention must be established. He states that a program of prevention cannot be developed within the gates of the institutions. The field of work lies in the various communities of the state. Doctor Toner says:

> "We all realize that while the progress in physical hygiene during the past century has been most spectacular, we have made no such remarkable accomplishments in the field of mental hygiene. This might have been expected since the problems presented by physical disease are more obvious and more readily attacked by scientific methods of research. Textbooks of medicine written today speak of many diseases as of the past; smallpox, diphtheria, bubonic plague, typhoid fever, yellow fever, and other physical diseases, which in the past were costly in human lives and happiness, no longer present a terrible menace to progressive peoples who possess the facilities of modern public health service. What modern science has accomplished in the control of physical diseases can be duplicated, we feel sure, in the field of mental disease. The term 'mental hygiene' itself is a recent one in the common language of the people. The interest in this field has increased tremendously, so that at the present time it might well be said that more money is expended upon research in the problem of mental hygiene in one year than was expended in all historical times previous to about 1915. It is hoped that the Department of Institutions of the State of California will soon be among the leaders in the program of scientific investigation in the field of mental hygiene. The results of this program of prevention will not only be a measure of great value in the improvement of human life but likewise a very significant investment, promising large dividends in reducing the tax burden to the people of California. The ancient adage 'An Ounce of Prevention Is Worth a Pound of Cure' is most relevant in the field of delinquency and insanity."

"**Placer County Children Immunized.**—Nine physicians of Placer County, in coöperation with the county health officer and the California Department of Public Health, offered immunization against diphtheria to school children of Placer County. As a result, in a single week 1237 children received the benefits that come through the provision of this protective measure.

"In the high mountainous district of the Sierra Nevada, where snow is still present, many children walked as far as six miles through the snowdrifts to receive their immunization. In five of the rural schools the entire student body was inoculated with the protective material. . . .

"There was no unusual prevalence of diphtheria throughout the county which instigated this campaign. It was undertaken purely and simply as an insurance measure against the appearance of diphtheria in this county. The physicians, health officer, school authorities, and parents are to be commended for the wisdom and foresight that they have shown in carrying out this campaign successfully. The physicians are particularly deserving of commendation, for they sacrificed a great deal of their time and energy for the public good."

"A Key to the White House Conference.—The coming follow-up of the White House Conference which will be held in California in the near future is arousing considerable interest throughout the state. One of the publications of the White House Conference on Child Health and Protection—the key volume to the whole series, entitled 'White House Conference, 1930'—tells the whole story of the conference briefly and in readable fashion. This publication contains the significant leading speeches of the conference, including those of President Hoover and Dr. Ray Lyman Wilbur, chairman of the conference, together with abstracts of the articles of all conference committees and the committees' recommendations. As a large edition of the book was published, it has been possible to make an attractive edition with board covers, which is available at the nominal cost of fifty cents, including postage. This book can be obtained from the office of the White House Conference, Interior Building, Washington, D. C.

"This summary volume of the White House Conference serves a real purpose in guiding the well-intentioned efforts of civic and social groups. Workers in the field of child welfare are turning to this volume as an invaluable source-book and guide."

"Los Angeles Girl Wins State Health Essay Contest.—The Gorgas Memorial Institute of Preventive Medicine in Washington, D. C., has announced that Miss Helen L. Gunderson of the Los Angeles High School is the winner of the state prize offered by the institute for having submitted the best California essay on the subject of 'Mosquitoes—Their Danger as a Menace to Health and the Importance of Their Control.'

"This contest was participated in by high school students from every State and the District of Columbia, and fifteen thousand manuscripts were submitted. High school winners were chosen by faculty members and a Gorgas medal and a cash award were made to each winner. From the winning high school essays the state judges selected the best state paper. Mr. Vierling Kersey, State Superintendent of Public Instruction, Dr. Giles S. Porter, Director of the California Department of Public Health, and Frank C. Jordan, Secretary of State, were the judges who passed upon the California essays."

BOARD OF MEDICAL EXAMINERS OF THE STATE OF CALIFORNIA

By Charles B. Pinkham, M. D.
Secretary-Treasurer

News Items, July 1932

When the legal calendar of the Board of Medical Examiners is called at Native Sons' Hall, San Francisco, at 10 a. m. Tuesday, July 12, 1932, the following licentiates are presumed to answer to complaints and citations to show cause why their licenses to practice in California should not be revoked:

Alexander, Charles B., M. D., conviction, violation Washington banking laws.
Alexander, Isaac, M. D., U. S. Veterans' Bureau fraud.
Armitstead, Reo B., M. D., U. S. Veterans' Bureau fraud.
Bonaventura, Filberto, M. D., federal narcotic conviction.
Buree, Samuel P., M. D., state narcotic conviction.
Citron, I. Jesse, M. D., alleged narcotic violation.
Collier, Francis, M. D., narcotic violation.
Cooper, Burpee, M. D., state narcotic conviction.
Dean, Charles J., M. D., federal conviction, bankruptcy laws.
Glaeser, William Edward, M. D., U. S. Veterans' Bureau fraud.
Kergan, J. T., M. D., narcotic violation.
MacLauchlan, Robert, M. D., violation probation.
McVey, Charles L., M. D., commitment.
Niemann, Theo Henry, M. D., narcotic violation.
Patee, Eliphalet, M. D., alleged illegal operation.
Pullman, Maurice (chiropodist), for final judgment.
Purcell, Edward, M. D., U. S. Veterans' Bureau fraud.
Rinaldo, Eugene, M. D., permanent writ of prohibition reported dissolved.
Staples, Aubrey, M. D., U. S. Veterans' Bureau fraud.
Stewart, Charles M., M. D., conviction for violation of Harrison Narcotic Act.
Tracy, Coyle, M. D., aiding and abetting.
Van Tassel, Fred H., M.D., U. S. Veterans' Bureau frauds.
Vasko, John R., M. D., U. S. Veterans' Bureau frauds.
Zachariah, Simon, M. D., narcotic violation.
Teran, Carlos Hidalgo y, M. D., narcotic violation.

"Dr. I. Jesse Citron, found not guilty yesterday by Federal Judge William P. James of charges that he illegally prescribed large quantities of narcotics for the late Alma Rubens, motion picture actress, faces new accusations. Shortly after Judge James had made known his findings after a four-day trial without a jury and having the case under submission for two weeks, announcement was made in San Francisco by Dr. Charles B. Pinkham, secretary of the State Board of Medical Examiners, that Doctor Citron will be brought before the board July 12 for trial by a state body on the same charges. Evidence introduced in federal court will be used against the physician in the new hearing. The Harrison Narcotic Act, under which Citron was indicted on thirty-five counts and tried before Judge James, is purely a revenue measure and has no bearing on prescribing by physicians of drugs for addicts, the judge said in his decision. 'Enactment of legislation to control the amount of drugs prescribed for patients by physicians is within the power of the states. The state also has the power to license and take away licenses,' Judge James said. 'Prescribing of drugs is purely a matter of good faith on the part of the physician.' . . . Narcotic agents testified that Doctor Citron prescribed 91 grains of one drug and 135 grains of another powerful narcotic for Miss Rubens in a thirty-five day period. Miss Rubens died after a brave fight against the horrors of narcotic drugs" (Los Angeles *Examiner,* June 2, 1932).

According to reports, Joseph Freed on May 6, 1932, in the Municipal Court of Los Angeles, pleaded guilty to a charge of violation of the Medical Practice Act and was sentenced to pay a fine of $250 or serve 125 days in the city jail, sentence being suspended, and he was placed on probation for six months.

"Dr. C. B. Alexander, well known Alhambra physician, will fight extradition to Vancouver, Washington, where he was scheduled to appear yesterday for sentence on a fraud conviction in connection with the closing of the American Security Bank. . . . Dr. Alexander was president of the now defunct bank" (Los Angeles *Examiner,* May 19, 1932.

Reports relate that Harrison B. Hulse, M.D., former probationer on a narcotic charge, on June 4 pleaded guilty in the Police Court of Pasadena to a charge of driving an automobile while intoxicated, and was sentenced to pay a fine of $100 or serve fifty days in jail. Fine paid.

"C. R. Jackson, self-styled doctor, sought here since September 30, 1930, on charges of issuing fictitious checks, is under arrest in Oakland, California, Detective Lieutenant P. J. Slattery announced today. Jackson, according to Slattery, passed bogus checks on several downtown merchants and at the State college, where he enrolled in a Spanish class. He represented himself as a doctor, Slattery said the merchants reported" (San Diego *Tribune,* May 11, 1932). (Previous entry, June 1931.)

"Accused of violating Section 17 of the State Medical Practice Act, L. Lee Krauss, alleged promoter of a birth control motion picture billed for Suisun tonight and Wednesday, was arrested yesterday on a warrant sworn to in Police Judge W. T. Kelly's court. . . . The film, 'No More Children,' was advertised in a local newspaper. . . . Krauss posted bail and left at once for Woodland to confer with his attorney. . . . (Vallejo *Times-Herald,* May 17, 1932). It is said that Krauss claims to be a graduate of the New York College of Chiropractic, 1914; also of the J. S. Riley College of Chiropractic, Washington, D. C., 1924; and is said to assert that the "Bureau of Moral and Hygiene Education, Inc.," of New York belongs to him.

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*This is the remainder of the index printed in the June California and Western Medicine, containing the items listed in the State Examining Board column of Volume XXXVI.

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THE OBESITIES—THEIR ORIGINS AND SOME OF THE METHODS OF REDUCING THEM *

By LEWELLYS F. BARKER, M. D.
Baltimore, Maryland

THOUGH not much in vogue before the nineteenth century, the term "obesity," derived from the Latin word *obesus* ("that has eaten itself fat, stout, plump") began to be used in English early in the seventeenth century as a name for excessive fatness or corpulence. The derivation of the term indicates that, in the minds of those who introduced it, the condition so designated depended upon eating too much.

MEDICAL DEFINITION OF OBESITY

Though every layman recognizes marked corpulence as obesity, there are often outspoken differences of opinion among nonmedical observers as to what constitutes optimal weight, that is to say, the point where overnutrition (obesity) and undernutrition (emaciation) respectively begin. Nor is the layman alone in doubt; physicians with their scientific training have had difficulty in laying down any general rule that will sharply separate overnutrition from normal nutrition and from undernutrition in all persons. There are so many individual differences in body-build and in constitutional make-up that a rule admittedly applicable to one type would be found to be inapplicable to a second contrasting type. Obviously, therefore, in formulating a medical definition of obesity, allowance must be made for these different types; any conception formed of what constitutes optimal or ideal weight must be regarded as abstract, and a fairly broad zone (perhaps a zone of ten per cent) must be left on each side of it before a weight should be regarded as either too high or too low.

In persons who are much overweight, functional disturbances of one sort or another are prone to appear; in those who are only moderately overweight, no disturbance of function may be noticeable, but on account of the tendency to progress, the obesity may be expected sooner or later to impair functional capacities.

Body weight is definitely related to age, to stature and, in less degree, to sex. From medical-actuarial tables and from long empirical observation, the average weights of healthy adults of different heights have been recorded, and rough-and-ready methods of determining quickly the ideal weight of adults from their height have been devised. Among these the three formulae suggested by Bernhardt, Broca, and Guthrie, respectively, are perhaps most often used.

According to the *formula of Bernhardt:* Ideal weight in kg.=

$$\frac{\text{height in cm.} \times \text{chest circumference in cm.}}{240}$$

To allow for differences in body-build, age, sex, and race, weights 15 per cent or 20 per cent above or below those resulting from application of this formula are not regarded as abnormal.

According to the simple *formula of Broca:*

$$\text{Ideal weight in kg.} = \text{height in cm.} - 100$$

Differences of plus or minus 8 per cent or 10 per cent are not looked upon as abnormal.

According to the *formula of Guthrie:* Ideal weight in lbs. $= 110 + (5.5 \times$ number of inches taller than five feet.)

This formula, devised by the late Dr. Clyde G. Guthrie when he was on the medical staff of the Johns Hopkins Hospital, is the one I ordinarily employ. Weights 10 per cent above or below the abstract ideal weight thus indicated are considered to be still within normal limits.

A weight 25 per cent above ideal may be called "slight" obesity; one 35 per cent above, "distinct" obesity; one 50 per cent above, "moderately severe" obesity; one from 50 to 100 per cent above, "very severe" obesity; and one more than 100 per cent above (only rarely seen), "extreme" obesity.

NORMAL FAT METABOLISM

To understand why one person is of normal weight, another fat, and a third lean, we must be familiar with some of the more important chemical studies bearing upon the metabolism of the body in health and in disease. Let us consider first, then, the fat metabolism of normal persons.

In a healthy human being of normal weight, approximately one-sixth of that weight is fat stored as reserve material for supply of energy to be called upon in case of need. Thus, a normal man weighing 70 kilograms will contain, say, 12 kilograms of fat, of which 9 kilograms will be stored in certain reserve depots of fat, thus preserving a potential combustion value of eighty thousand calories or enough to cover the total energy requirements of his body for about a month. The normal depots of fat storage lie in the connective tissues of the trunk and the extremities, especially in the subcutaneous tissues. The distribution of the stored fat varies somewhat with sex and, as we all know, in different persons of the same sex. In men, fat tends to be deposited in the subcutaneous tissue of the neck and of the abdominal wall, whereas in women the breasts, the abdomen, the buttocks, and the thighs are sites of predilection for fat storage.

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* Address given under the auspices of the Scripps Metabolic Clinic at La Jolla, California, January 9, 1932.

Human and animal fats consist of triglycerids of oleic, palmitic and stearic acid; they are derived from the foods ingested, not only from the fats eaten, but also from the carbohydrates and from the amino-acids of the proteins of foods through chemical transformations within the body. In fat metabolism, a most important rôle is played by the ferment lipase, which, besides having the power to split fats into their component fatty acids and glycerin, can also, in certain circumstances, act in the reverse direction and synthesize these components to neutral fats. It now seems probable that the fats of the foods on absorption by intestinal epithelium are split by lipase and are again resynthesized before passing into the chyle to go over into the blood. Just where the carbohydrates and the amino-acids of the foods are transformed into fats has been much discussed; that, however, both the liver cells and the fat cells of the connective tissues are sites of such transformation seems certain, since both lipase and glycogen are demonstrable within them.

The available calories of the food ingested represent the potential energy added on eating: for 1 gram protein, 4.1 calories; for 1 gram carbohydrate, 4.1 calories; and for 1 gram fat, 9.3 calories. From the foodstuffs taken in and assimilated, the structure of the body is maintained and the energy involved in muscular work and in the production of heat is supplied. A certain minimum of protein is necessary for growth, regeneration, and adaptation of the bodily tissues, for the production of external and internal secretions, and for the maintenance of the blood. The energy for work and heat production is derived from oxidations within the body of the carbon and hydrogen of fats, carbohydrates and amino-acids. If more energy is used than the food supplies, the stores of the body are called upon and the body loses weight; if less is used than the food supplies, the surplus is stored as fat and the body gains weight. Changes in the water and salt content of the body can be responsible temporarily, it is true, for decrease or increase in body weight, a fact that may for the moment be disregarded, since, "for the long pull," body weight is determined, according to the law of conservation of energy, by the balance between caloric intake and caloric expenditure.

Now, in healthy adults, equilibrium may be maintained between caloric intake and caloric expenditure, the body weight remaining practically constant for years, or even for decades, through unconscious intracorporeal regulation. The needs of the body for maintenance and expenditure are so exactly covered, the appetite and food intake on the one hand and the muscular exercise indulged in on the other are so accurately fitted into the bodily economy that there is no impairment of the content of body protein and no net gain or loss of stores of fat and carbohydrate. Obviously, in such persons, some infraconscious regulatory contrivance must be constantly at work for the maintenance of balance, for there are other persons who, though they satisfy their appetites for food and obey their instinctive impulses for exercise and work, either grow fat or emaciated, and to maintain balance are compelled consciously to intervene in a regulatory process.

The regulating contrivance that maintains balance unconsciously in the healthy appears to be partly neural, partly endocrine. The principal *neural* regulatory centers lie in the diencephalon (interbrain) and are made up of a number of adjacent areas (in the hypothalamus) that govern hunger, thirst, heat-formation, and carbohydrate-, fat-, salt-, and water-metabolism; these centers are kept labile by the integrity of the cerebral hemispheres, and they exert their influence upon the fat cells through vegetative paths that run downward through the axis of the nervous system and through the peripheral nerves (cerebrospinal and sympathetic) to the fat cells. The endocrine regulation is probably very complex, hormones from the thyroid, the hypophysis, the islands of Langerhans of the pancreas, the gonads, and the suprarenals, passing into the blood to act upon other endocrine glands and upon the fat cells, partly directly upon the latter, partly through the intermediation of the nervous system. The thyroid hormone has a direct effect upon the metabolism of the body at rest (measured as the basal metabolic rate) and the hypophyseal hormone has an influence upon the energy spent in digestion and assimilation (so-called specific dynamic action of foods). Clues are gradually being obtained as to the nature of the influences of other hormones, too, upon energy equilibrium in the body, but knowledge in this domain is still too meager to make discussion of it at this time profitable.

METABOLIC CONDITIONS THAT RESULT IN OBESITY

Obviously, from what has been said, if the potential energy of the food eaten and assimilated exceed the energy expended in resting metabolism, in muscular work, and in the production of heat, that is to say, if the total caloric intake exceed the total caloric output, a positive balance will result and weight will be increased owing to storage of fat. In the last analysis this is true of every form of obesity; accordingly, one may say that each person who is obese has eaten more than was required to meet the expenditures of energy that he has made. That statement unqualified might, however, be very misleading, for it might spread the view that obesities are due always to gluttony on the one hand or to laziness on the other! Though gluttony-obesity is well known and laziness-obesity also, both being referred to often as "exogenous" obesity, we must not forget that there may be for their origin certain "endogenous" components also that account for excessive or perverted appetite, for failure of satiety on eating, for lack of impulse to exertion, or for other disturbances of function that lead to failure of the mechanism that normally maintains unconsciously the energy equilibrium of the body.

Many persons grow fat though they eat less than do other persons of the same sex, age, and height who do not fatten; and many grow thin on diets that suffice to maintain normal weight in others who seem equivalent. Why is it that some persons complain that everything they eat turns to fat, or that others maintain that no matter how much they eat of no matter what kinds of food, they cannot gain weight? These ideas are not always wholly erroneous, though on studying the actual food intake of the complainants we find that sometimes they are. Thus, but few people realize how little food above actual daily needs will, in time, lead to obesity; for example, a person who takes three pats (one ounce) of butter, or its equivalent, extra per day above his needs may gain a pound in weight in two weeks or twenty-five pounds in one year. Nor can one easily take enough extra exercise to burn up an extra intake of fat; as an illustration, Benedict has pointed out that the working off of one pat of butter (one-third ounce), or its equivalent, requires an amount of muscular activity equal to that involved in climbing from the bottom to the top of the Washington monument!

Eating habits, methods of cooking, and certain occupations have much to do with the size and the quality of the food intake. If one associate with heavy eaters or with light eaters, one's own habits may, through the examples set, undergo change. Some cooks use larger amounts of fat (butter, oil, lard) in cooking than do others. Butchers, bakers, and restaurant managers are prone to be large eaters because of the special opportunities of their occupations. Professor Alonzo E. Taylor thinks that America, on the whole, is in danger of an increasing incidence of obesity and of its sequels because the national income has been rising, attractive foodstuffs are available in extraordinary variety and profusion, and economic restraint on eating is lacking, except in the poorest classes; he urges the importance of developing influences that will restrain or counteract the tendency of the masses to grow fat, though I daresay some of you are saying to yourselves that, possibly, if the existing economic slump continue long enough, the cause of his anxiety may soon be removed!

That obesity is, in many persons, due to an inherited disposition to store excess of fat seems certain, for obesity "runs in families"—the fatty phenotypes being determined by their genotypic dispositions. Instead of being able, like normal persons, to trust their instincts with regard to the intake of food and liquids and with regard to physical exercise, these persons have faulty automatic infrapsychic regulators of their body weight and, if they are to prevent the development of obese phenotypes, they must learn how to inhibit the influences of their anomalies of constitution by consciously imposing restrictions upon themselves that are out of accord with some of their instinctive feelings and desires.

The inborn disposition to obesity may be very complex in its nature; it may often be impossible in a given person to decide in how far one or several conceivable congenital factors may be concerned (abnormal regional or general lipophilia of the fat-storing connective tissue; abnormal regulative hypothalamic nerve centers or vegetative conduction paths; abnormal endocrine glandular activities with lowering of basal metabolic rate or diminution of the specific dynamic action of foods; abnormality of sensational life with demand for excessive food and drink; abnormal dislike of physical exercise or preternatural fatigability upon attempting it).

Persons born with normal genotypes and whose regulatory systems for maintenance of proper body weight have been adequate may become obese owing to changes in the nervous system or in the endocrine apparatus resulting from spontaneous disease or from surgical operation. As examples, I may cite (1) the extraordinary obesity that sometimes follows epidemic encephalitis (with involvement of the hypothalamic region), and (2) the obesity that develops in women after removal of the ovaries, or in men after castration.

Among the *obesities of endocrine origin* (many of them endogenous) I may mention:

1. *Dystrophia adiposogenitalis,* associated often with tumor or other disease of the hypophysis cerebri, with defective development of the genitalia, and with loss of the specific dynamic effect of protein and other foods (some believe that this obesity is not due to the hypophyseal lesions but to injury of the adjacent hypothalamus).

2. *Hypothyroid obesity,* associated with lowering of the basal metabolic rate and sometimes with myxedema.

3. *Hyperinsulinar obesity,* associated with hypoglycemia and greatly increased appetite for food. Occasionally it occurs in carcinosis of the islands of Langerhans (Wilder).

4. *Hypogonadal obesity,* associated sometimes with heterosexual phenomena.

5. *Hyperinterrenal obesity,* associated with hyperfunction (sometimes tumor) of the suprarenal cortex and, in adult life, with marked hypertrichosis.

6. *Adiposis dolorosa (Dercum's disease),* associated with asymmetrical painful nodules, asthenia and mental symptoms (alterations in thyroid, hypophysis, and gonads at autopsy).

Among the peculiar *obesities of neural origin,* in addition to the hypothalamic forms already referred to, may be mentioned (1) the fatness of the lower half of the body (with marked absence of fat in the upper half) in so-called *lipodystrophia,* and (2) the fatness of one lateral half of the body (with leanness of the opposite side), the so-called *unilateral obesity*. In these neurogenic obesities the metabolism in the fat cells of certain regions of the body only is pathologically disturbed by nervous influences, whereas the strange regional accumulations of fat seen in some of the endocrinogenic obesities are assumed by some to point to exaggerations of primary regional lipophilic tendencies.

Studies of intermediary metabolism by Kugelmann indicate that in the obese the available glycogen stores in the liver and in the muscles are less than normal, owing to disturbances of the vegetative nervous system; apparently, since the obese burn carbohydrates in diminished amounts and do not excrete carbohydrates, they must shove them into their fat depots where they are converted into fats.

As to whether a fat cell is to synthesize glycogen to fat and hold it, or is to deliver fat to the lymph and blood after splitting by lipase, is now thought to depend upon changes in cell organization in which there is spatial separation, or union, of substratum and ferment due to the construction, or to the breakdown, of plasmatic partitions, that is to say, to colloidal chemical reactions with formation of gels and sols.

It is well known that such reactions are associated with changes in the local binding of water. It is very interesting, as Lichtwitz has pointed out, that insulin increases both water and fat reception by the tissues, whereas thyroxin simultaneously dehydrates tissues and diminishes the amount of fat stored in them. When we learn why it is that in many people normal weight is maintained unconsciously despite marked variations in bodily activity and in food consumption, and when we come to understand fully the happenings in fat cells and just how these happenings are modified by neural, by chemical, and by physical influences, we shall have progressed far toward a true understanding of the conditions that underlie obesity.

RECOGNITION OF THE DIFFERENT TYPES OF OBESITY

In clinical medicine, it is not with a single obesity but with a whole series of obesities (differing more or less from one another) that we have to deal. In their production they have all had one thing in common, namely, a positive energy balance; that is to say, there has been greater caloric intake than caloric expenditure. But the reasons for this discrepancy in energy values may, as we have seen, be very different in the different types, and it is the physician's duty in each case that he studies to attempt to unravel, as best he can, the tangled skein of etiology and pathogenesis.

The carefully taken *anamnesis* will throw light upon inherited dispositions, as well as upon personal habits of diet and exercise; in it, too, will be recorded the history of growth, of sex development, of changes in weight, and of earlier diseases (especially infections, nervous maladies, and endocrinopathies).

The *physical examination* of the completely nude patient will show at a glance the general and the regional distribution of the fatty tissue and will often give immediate diagnostic clues to the special type under observation. Thus, the girdle obesity with small genitalia and delicate acra, and with lack of development of secondary sex characters in a person of small stature, will betray immediately the so-called dystrophia adiposogenitalis. Again, an obesity in a person who looks prematurely senile, who has a dry skin, who has pudgy hands and pads of fat above the clavicles, and whose face is deeply wrinkled, will make one suspect at once a hypothyroidism. Masses of fat about the hips along with general hypotrichosis (and, in the male, small testes, large breasts, and a feminine type of voice) will make hypogonadism (eunuchoidism) leap to the mind. On the other hand, a massive obesity with extreme hypertrichosis, in the absence of signs pointing definitely to other endocrine organs, will make one consider the possibility of hyperfunction of the cortex of the suprarenals. Lipodystrophy and Dercum's disease are two other types that can be recognized promptly. A plethoric obesity, in the sense of Immerman, is distinguishable from an anemic obesity when a patient enters the consulting room.

That a *general diagnostic survey* should be made of all the organs and their functions, including tests of the secretions and of the basal metabolic rate, goes without saying. For in obesity an examination of the blood may reveal a marked hypoglycemia pointing to hyperinsulinism, or a hyperglycemia suggestive of a diabetes mellitus incipien; a determination of the respiratory quotient may prove that the basal metabolic rate is low; or a charting of the visual fields with the perimeter may discover a wholly unsuspected bitemporal hemianopsia suggestive of an enlarged pituitary gland or of a tumor. Moreover, one wants to know, from the beginning, how many of the complications and sequelae of obesity are present or in prospect. Is there much embarrassment of the circulation, and, if there is, what factors are concerned in it? Are the peripheral arteries thickened and is the blood pressure high or low? Has the patient been susceptible to bronchitis or to bronchopneumonia? Are there herniæ or hemorrhoids? Is the liver enlarged or have there been signs of gall-stones or of cholecystitis? In men we ask about sexual libido and potentia; in women, about amenorrhea and premature menopause. Has there ever been sugar in the urine? This is important since diabetes mellitus is nineteen times as frequent in the obese as in persons of normal weight. On examination of the nervous system, we look for signs of a neuritis, of a preëxistent encephalitis, or of an incipient cerebral atherosclerosis. Subtly, too, we estimate the psyche of the patient (his intellectual status, his emotional tendencies, and his power of will).

Only after collecting data by this kind of survey, considering them carefully, and arriving at as accurate and as multidimensional a diagnosis as is possible in the circumstances in which one is compelled to work, should one pass on to decisions as to the treatment to be applied. This therapy should be planned in the best interests of the patient as a whole, and, in the making of the plan, there should be no neglect of any part of the multidimensional diagnosis.

THE TREATMENT OF THE OBESITIES

We are as yet far removed from our ideals of treatment of the obesities from the etiological and pathogenetic standpoints. Still, real progress has been made toward the realization of these ideals during the past three decades, and already the therapeutist who carefully differentiates types can intervene with greater success and satisfaction than the practitioner to whom obesity is "just fat." Even when treating the cases of mild obesity, it is always advantageous to keep etiological factors in mind.

Young people are better to be a trifle over rather than under normal weight; for a little plumpness is not only becoming to them, but is some protection against infection with tuberculosis and against functional nervous disorders. The prevailing style of emaciation among débutantes is a distinct menace to the health of these young women, and every effort should be made to change the "style."

In people of thirty-five years or older, it is better to be a trifle under than over normal weight, for the general human tendency is gradually to grow stouter from middle life onward into the sixties.

The prevention of obesity would be given more attention if people realized how much easier it is to avoid gaining an excess of weight than it is to reduce the weight once it has been put on. In families with disposition to obesity, especially, the family doctor should watch every member and, in his periodic surveys of the family health, he should make sure that diet and exercise are suited to individual needs.

In reduction cures the plan adopted should vary according to the degree of obesity, the temperament of the patient, and the presence or absence of complications (like myocardial weakness, high blood pressure, or renal disease). In all cases, however, dietetic measures should come first, along with adjustment of motor activities. Other measures, like hydrotherapy, endocrine therapy, pharmacotherapy, radiotherapy, and surgical intervention, should be considered and adopted only after the possibilities of a scientifically applied dietotherapy have been exploited.

Dietotherapy.—In arranging the diet of an obese patient the following points merit attention:

1. The diet should be such as to insure a negative energy balance.
2. The food ingested should contain enough protein (especially animal protein) to avoid nitrogen loss and to give all varieties of amino-acids necessary for optimal cell life.
3. In the food intake there should be an abundance of vitamins A, B, C, D, E, G, and of mineral salts, especially iron and calcium.
4. There should be sufficient bulk to the diet to aid in satiety and to prevent constipation.
5. The water intake and the sodium chlorid intake should be regulated according to individual needs; this is of especial importance in the so-called salt-and-water obesity in which there is a marked hydrophilic tendency of the lipophilic tissues.
6. The personal preferences with regard to foods should be given consideration in as far as it is possible to do so without prejudicing the success of the treatment. The cure should involve the least possible hardship for the patient and should be so arranged that the patient will be willing to continue the diet best suited to him, not only until excess weight has been lost, but afterward also.
7. No responsibility for a dietetic cure should be assumed unless the patient will promise to weigh himself weekly, keep a record of his weight and, in general, coöperate in the treatment.

In cases of *mild obesity* the experienced physician can easily place the coöperative patient on a diet (in his own home) that will suffice without the use of food scales and without any elaborate calculations of caloric intake and caloric expenditure. Education to the moderate ingestion of clear soups, lean meat, chicken, fish, green vegetables, and fruits, with abstinence from sugars, candies, and other sweets, nuts and visible fats and with restriction of starchy foods, of common salt and of total fluid intake, will soon yield satisfactory results in the chart of weekly weights. The patient should be told neither to strive for nor to expect a rapid reduction of his weight, but to be content with a gradual loss over a period of months. He should know, too, that sudden losses or gains mean merely changes in the water content of the body, not changes in amount of fatty tissue; the sudden loss of a few pounds through strenuous tennis, for example, is likely to be made up again within a day or two through increased water intake.

In all cases of *severe obesity* more precise methods of work are desirable, and wherever possible the patient should enter a hospital (1) for the work preliminary to the decisions as to dietary restriction and (2) for observation afterward to insure the negativity of energy balance, as well as the compatibility of the diet with the patient's general state. Here the first thing to do is to determine, at least roughly, the daily energy expenditure of the patient in order that the diet may be made of less caloric value so that a negative energy balance will be established, thus compelling a gradual reduction of body fat. We determine the basal metabolic rate (respiratory quotient when fasting and at rest) and compare it with the average for sex, age, height and weight (in F. G. Benedict's tables) to see whether it is low or high. The respiratory quotient also permits us to calculate the number of calories produced daily by the standard or basal metabolism:

R. Q.	Calories per litre of oxygen
0.711	4.72
0.800	4.83
0.900	4.95
1.000	5.07

Thus, if the R. Q. is 0.800, the daily calorie production in the basal metabolism is obtained by multiplying the total volume of oxygen in liters (used during the time of the experiment by 0.8 and then calculating the amount of transformation for the whole twenty-four hours.

Next one adds the number of calories that correspond to the specific dynamic action of foods (best actually determined, since in some obese persons this is diminished; normally it amounts to about 10 to 15 per cent of the basal requirement).

Finally, one adds the caloric expenditure estimated for exercise and occupation and heat regulation (from tables) and so has approximately the total caloric expenditure of the patient for twenty-four hours.[†]

Now I am not silly enough to think that any such elaborate process of calculation is likely to be adopted by men in general practice. They must have some simpler way of estimating caloric needs. As a matter of fact, for the vast majority of cases it will suffice for practical clinical purposes to assume that the average food need (in calories) for adults doing light work = ideal weight in kilograms x 35 or = ideal weight in pounds x 35/2.2.

A diet must next be planned with a caloric intake that would be one-fifth or one-third less than a maintenance diet for a person of normal weight.

Lichtwitz gives the following useful table:

Ideal weight in kg.	35 calories per kg.	Calories after subtracting 1/5	1/3	1/2
80	2800	2200	1900	1400
75	2600	2100	1700	1300
70	2400	1900	1600	1200
65	2300	1800	1500	1100
60	2100	1700	1400	1100
55	1900	1500	1300	900

No visible fat is permitted in the food and not more than 20 to 30 grams may be used in cooking. Pastries, candies, nuts, and beer are forbidden. About 100 grams of protein may be given (lean meat, cottage cheese, skimmed milk) and the rest of the calories in fruits (unsweetened) and leafy green vegetables. Bouillon is permitted, but no thick soups. Salads (with lemon juice, but without oil) are also given. Small quantities of potato and of Graham bread may be added if the total calories estimated are not exceeded.

I have often found it well to begin with the still stricter diet introduced by Frank A. Evans and his associates in Pittsburgh. They give one gram of protein per kilo of calculated ideal body weight and 0.6 gram of carbohydrate per kilo in the form of 5 per cent vegetables, and fruits, thus providing for bulk. In addition, from 8 to 10 grams of fat are permitted daily, and every other day 100 cubic centimeters of milk, 100 cubic centimeters of orange juice, and some yeast; milk and the leafy green vegetables are important as "protective foods." Some viosterol is administered each day and an adequate supply of inorganic salts (not provided for in the food) is given as Tyrode's solution (made without dextrose). When patients complain of hunger while on this diet, they are given some water to drink.

The caloric intake (under 600 calories) on this strict Evans diet (consisting of 50 grams of protein, 26 grams of carbohydrate, and 27 grams of fat for a patient five feet tall) is, of course, far below the caloric expenditure of any patient even when at rest. As the diet supplies, however, sufficient protein (containing the eighteen different amino-acids) to prevent injury to the body proteins, sufficient carbohydrates to help maintain the protein intake, sufficient mineral materials, and sufficient vitamins (including the fat soluble A, D, and E and the water soluble B, C, and G), the patient suffers no harm and of necessity burns up a definite amount of his stored fat every day. One patient received for *breakfast* one egg and one ounce of bread; for *lunch*, one egg and four ounces of green vegetables; for *dinner*, one cup of bouillon, three ounces of lean meat and four ounces of green vegetables over a period of ten weeks with a loss of thirty-seven pounds.

Though patients with severe obesity can be kept for as long as four months on the Evans diet and still maintain their body protein, it has not seemed to me to be desirable to prolong its use (with rare exceptions) beyond an initial period of from four to six weeks. The definite and rapid loss of weight from the beginning is very encouraging to the patient, and increases his willingness to make the effort to acquaint himself with the principles of dietotherapy and to learn how to manage his intake of foods and fluids in his own best interests.

Those who work in metabolic clinics have long since learned that education of the patient as to mode of life (including diet, exercise, and rest) is the best service that can be rendered; indeed, the results otherwise of a stay in a metabolic clinic are wholly secondary in value. In this connection I was much pleased to read, in a recent number of the *Scientific Monthly,* a semi-popular article by Gray and Stewart on "Quantitative Diets Versus Guesswork in the Treatment of Obesity and Diabetes" in which these workers in the diet laboratory of the medical department of Stanford University Hospital described their simple methods of educating patients to the use of measured diets. I can recommend to general practitioners the perusal of this article, for I feel sure they will find it helpful in getting a patient suffering from a metabolic disorder (obesity, diabetes, renal disease) well started on the way to the diet best suited to his condition; but also, and this is of even greater importance, adoption of the methods advised will go far toward insuring the maintenance of the proper diet when the patient must be placed upon his own responsibility.

After the preliminary reduction of weight, therefore, by means of a strict Evans type of diet, it is my custom to educate the patient in the use of diets that will reduce him gradually, rather than rapidly, pointing out to him that the steady loss of one pound per week will make him twenty-five pounds lighter at the end of six months. This slower method is supported by Wilder also, who urges a reduction that is gradual enough not to impair the strength of the heart or of the nervous system, not to make the patient too uncomfortable, and, above all, not to make him lose confidence in the treatment and stop it. After securing a loss of ten or twenty pounds, one may be satisfied thereafter with the loss of one pound a week.

[†] For precise research work, the methods mentioned will scarcely suffice; for references to the exact methods of the investigative "metabolism cage," the recent papers of Newburgh and his associates may be consulted.

In the more liberal diets permitted after the preliminary period of very strict diet, the protein, because of its high specific dynamic action, may be increased to, say, 100 grams and the total caloric intake to, say, 1000 or 1500 calories, provided their total is well within the total caloric expenditure.

In arranging the diet for an obese patient, it is often well to give five or six small meals rather than three large ones. Thus, *breakfast* may consist of orange juice or grapefruit juice, tea or coffee with a little milk, but without sugar (saccharin may be used for sweetening if desired), and in mild obesity one egg and one slice of toasted graham bread. In the *mid-forenoon,* a raw apple or a cup of bouillon may be permitted.

The *mid-day meal* may consist of vegetable soup, two slices of lean roast meat, two varieties of cooked vegetables (5 per cent), green salad with lemon juice (but without oil or mayonnaise), and one demitasse of coffee.

In the *mid-afternoon* a cup of tea or coffee with a little milk, and one graham cracker are allowable. The *evening meal* may consist of thin vegetable soup, boiled green vegetables, salad of lettuce and tomatoes, cottage cheese and a graham cracker, and raw or cooked fruit (unsweetened). At *bed time,* a raw apple may be eaten if desired.

Such a diet, if found to be rather too liberal, can have its quantities (in the single helpings) reduced, or better still, as is the custom in some of the European clinics, once each week the patient has a *skimmed milk* day (say, 1200 cubic centimeters or about 600 calories divided into six portions given at two-hour intervals); and also, once a week, a fruit and vegetable day (500 grams of fruit, 300 grams of stewed green vegetables, and 300 grams of salads made of leafy green vegetables and fruits—some 500 calories in all). Or, instead of such skimmed milk days and fruit and vegetable days, one may, as Grote and Calo suggest, plan for one *tea and meat day* (five cups of weak tea during the day, and four helpings of lean meat to a total of 600 to 700 calories); or for one *tea and fruit day* (six cups of weak tea flavored with lemon together with raw apples, pears, etc., to make the total caloric intake 300 for the day). Such semi-starvation days (twice a week) obviously permit of a somewhat more liberal diet on the other five days of the week.

The restriction of salt intake is often harder for patients to bear than restriction of water intake and of food intake. The various substitutes for sodium chlorid are of some help in flavoring soups, but for other foods the admixture of parsley, onions, chives, dill, and vinegar gratifies the taste more. (See H. Strauss.)

As adjuvants of dietotherapy, muscular exercise (walking, games, calisthenics, resistance contractions, etc.), massage, and hydrotherapy are often recommended as parts of obesity cures. Muscular exercise is advantageous to general health and it undoubtedly increases caloric expenditure. But the wise physician will individualize, remembering that exercise increases appetite, and, if this exercise be violent, it throws strain upon the heart muscle that may have already suffered from the long-continued obesity. Massage, though it increases the sense of well-being and may find an appropriate place in an "obesity cure," does nothing toward the removal of fat (either general or regional) in the patient, though it may do so for the masseur! Hydrotherapy, too, is useful for its general effects upon the nervous system, but it does not reduce the amount of fatty tissue; the loss of weight during sweat baths is due, of course, to loss of water, not to loss of fat.

Endocrine Products in the Treatment of Obesity.—Though the majority of the obesities will yield satisfactorily to rearrangement of the general mode of life and to the restriction of the intake or carbohydrates, fats, water, and sodium chlorid by the technique I have referred to, medical practitioners, since the advent of endocrinological studies and of organotherapy, have been all too prone to make use of thyroid products and of other glandular derivatives in cases in which these substances are not at all necessary. My own experience confirms that of the majority of metabolic workers in the view that most of the patients exhibiting obesity, if they will willingly and seriously coöperate in the application of a therapy that is exclusively dietetic, exertional, and psychotherapeutic, will easily secure a satisfactory reduction in weight through reform of daily habits without the aid of any endocrine therapy. The recent studies of Evans, Newburgh, Strouse, Wilder and others in this country, and those of Lichtwitz in Germany, of E. Möller in Scandinavia, and of Grote and Calo in Switzerland, are all corroborative of this view, not only for the treatment of outspoken gluttony obesity and laziness obesity, but also for that of most cases of obesity of endogenous or constitutional origin.

Still, there are some cases of endogenous obesity in which organotherapy can be applied without harm and, in reality, with advantage, since some endocrine products can increase the basal metabolic rate, some can restore the specific dynamic action of foods when this has been lost, and some can mobilize water and lead to its excretion with resultant lessening, apparently, of the lipophile tendency of certain hydrophile tissues.

Hypothyroidism with marked lowering of the basal metabolic rate is only rarely a factor of great importance in the origin of obesity; by far the majority of obese persons show no marked lowering of the basal metabolic rate. When hypothyroidism really exists, thyroid preparations (tablets of desiccated gland; thyroxin) are peculiarly efficacious.

But when there is no demonstrable hypothyroidism and the obesity is unusually refractory to dietetic measures and to physical therapy, thyroid preparations may sometimes be advantageously used for their pharmacodynamic effects (acceleration of combustion; mobilization of water). Thyroxin of known strength (the preparations of different manufacturers are not equivalent) may be cautiously used, with gradual increase of the dosage if no untoward effects follow its administration. According to Hellfors (1931), about one per cent increase in basal metabolic rate may be expected from the daily oral administration of one-quarter milligram thyroxin (Henning), one milligram thyroxin (Roche), two milligrams thyroxin (Schering), or one tablet thyreoidin (Merck); he often makes use of one-half milligram thyroxin (Henning) four times a day, thus increasing the basal rate by about eight per cent. In persons sensitive to thyroid it may be better borne if injections of foreign protein are given also; Kremer suggests five cubic centimeters of aolan weekly.

Very recently, Noorden has reported the effects of another thyroid preparation, "elityran," prepared by the I. G. Farbenwerke. One tablet corresponds to twenty-five milligrams of thyroid substance. The preparation, Noorden asserts, is free from bad effects when properly used; he got excellent results in thirty cases of obesity, especially in those refractory to other thyroid preparations, as well as in those that exhibited toxic effects on treatment with thyroxin. When thyroid seems indicated, he usually begins treatment with five tablets of elityran per day for two days, followed by a day without any, then by two days of five tablets each, then by two days with none, after which the cycle can be begun again. This dosage of twenty tablets per week may suffice, but in some instances he had to increase the dosage to thirty-five or forty tablets per week with two days per week free from thyroid, on which days the patient is kept upon a diet of fruit and salads, free from sodium chlorid. I have as yet had no personal experience in the use of this elityran therapy, but I expect to try it in selected cases.

Hypophyseal preparations have been used in cases of dystrophia adiposogenitalis, but as a rule without very brilliant results. Some have used anterior lobe extracts (*e. g.,* antuitrin), some extracts of whole gland (*e. g.,* hypototal). More can be expected from subcutaneous than from peroral use; though good results from the latter are reported also, I am rather skeptical. When the specific dynamic reaction of foods has been lost, it is asserted that it can, in some instances at least, be restored by the administration of hypophyseal preparations.

Other increta (gonadal, suprarenal, parathyroid) have been tried in the treatment of obesity, but without striking benefit. In the rare cases of obesity due to excessive production of insulin, deep radiation of the pancreas has been tried (Högler); in hypothalamic forms associated with brain tumor or hypophyseal tumor, both surgical intervention and roentgenotherapy have been used; in eunuchoid obesity, implantations of gonadal tissue have been advocated; and in obesity (with hypertrichosis and virilism) due to adenoma or to hyperfunction of the suprarenal cortex, removal of one suprarenal gland has been performed, in one case apparently with extraordinary benefit. (Koster *et al.,* 1931.)

In conclusion, then, let me again emphasize the primary importance of dietetic and other physical measures (scientifically applied) in the treatment of obesity; all other methods (endocrine, surgical, pharmacal) should receive consideration only after the former have been found to be insufficient.

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THE PROGRESS OF UROLOGIC SURGERY*

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According to Dorland, "The sum of what is known about the urine is urology." A detailed survey of so comprehensive a field is impossible in the time at my disposal. I shall therefore limit my address to the progress of urological surgery from its inception to the present time: in short, to lithotomy, prostatectomy, and renal surgery.

LITHOTOMY: EARLY PROCEDURE

The oldest branch of urological surgery is lithotomy. Even as early as 1200 B. C., there were Egyptian lithotomists. Their methods, judged by our standards, were crude; the results certainly unsatisfactory. Vesical calculi, crushed by counterpressure from above against a previously inflated bladder, were evacuated by means of buccal aspiration.

Nor was Egypt the only country with urological knowledge. India, one thousand years before Christ, had specialists who accurately described the formation of calculi and performed perineal lithotomies.

Passing westward from India, we find our next outstanding representative in Ammonius of Alexandria (275 B. C.). Ammonius became so expert in stone-cutting for humans that he was given the surname "Lithotomus." He was able to reduce with chisel and mallet the size of stones which were too large to be extracted through the usual lithotomy incision.

LITHOTOMY: LATER DEVELOPMENTS

Celsus, born 100 A. D., was a great urologist. He invented catheters of peculiar shapes to overcome various types of obstructions at the bladder orifice. Celsus was the first to describe urethrolithotomy, and his procedure was not changed for three hundred years. After the first modification, however, there were twelve different changes in the modus operandi.

Until the fourteenth century we (as specialists) were laymen. The monks controlled all other branches of medicine, allowing the lithotomists to function only without the sacred portals. No professional qualms deterred our urological progenitors from advertising. Lacking modern x-ray and photographic equipment and world-wide magazine circulation, these peripatetic lithotomists strung the evacuated bladder stones as pearls about their necks. Control of urology by laymen continued until about the middle of the fourteenth century when, through the unceasing efforts of Germain Colot, the medical profession was forced to admit that the specialty of cutting for stone should be recognized by the guild, and the urologist rose from his former illegitimate status to that of legally adopted child.

The first suprapubic cystotomy was performed by Pierre Fronco in 1560. Although the initial venture was successful, the number of subsequent failures was so great that the operation was discontinued, not to be revived until the nineteenth century.

For centuries the method of crushing bladder stones was to hammer from above against a drill, file, or rod that had been introduced into the bladder through the urethra or perineum. Indeed, so deeply established had this method become that it was necessary to go to a new nation in order to get away from this hammer and tongs method of treating bladder calculi. In the new world, an instrument called the lithrotrite was invented and perfected by James Jacob Bigelow. This instrument made the evacuation of bladder stones a comparatively comfortable procedure for both patient and operator.

PROSTATECTOMY

The first prostatectomy was performed by Covilliar about three hundred and fifty years ago, but the operation did not become immediately popular with urologists. Even as late as fifty years ago, Sir Henry Thomson—eminent urologist though he was—found himself unable to remove prostates successfully. He traveled extensively in the futile attempt to find someone who could perform the feat.

Many changes have been made in method of reducing the size of the prostate. Some of the earlier methods were: ligating the vas deferens; removing the vesicovenous plexus; ligating both internal iliac arteries; performing orchidectomy; cauterizing. Not all these modes have been definitely discarded. Some, previously discarded, were later revived in modified form; while others, notably cauterization, are exceedingly popular at the present time.

Today we are whittling hypertrophies, using greatly improved cauteries of various makes. The exponents of this newer method assure us that the functional improvement has been marvelous; and that the end-results, including the time element, are amazing. Indeed, there are those who believe that this type of procedure will supersede the proved methods of prostatectomy which in the past fifty years have reduced the mortality rate to four per cent. Others feel that it would be unwise to lightly cast aside the proved methods of prostatectomy, methods which have had the sanction of such eminent urological surgeons as Belfield, Fuller, Freyer, Young, and Harris of Sidney.

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* Chairman's address, Urology Section of the California Medical Association, at the sixty-first annual session, Pasadena, May 2-5, 1932.

RENAL SURGERY

Renal surgery, as we know it, is but sixty-five years old. Before that time, incising the kidney consisted in opening a swelling in the kidney region. The first four nephrectomies were fatal. Gustave Simon of Heidelberg (1869) was the first successful nephrectomist. Simon was bold, and no doubt deaf, for he examined the unanesthetized patient by inserting his hand and forearm through the anal sphincter until he could feel the kidney. He dilated the female urethra with his finger, and guided the first ureteral catheter into place. These finger operations caused many deaths, for Lister's theory of asepsis and antisepsis, although introduced, was not yet taken seriously by the guild.

Since that time, tremendous progress has been made. The cystoscope with its functional and visual adjuncts; intravenous therapy and diagnosis; laboratory methods of diagnosis—all have helped to revolutionize procedure in renal surgery. Now, thanks to these supplementary aids, we operate with a minimum of risk to the patient, and with no fear regarding the outcome.

Despite great improvement in urological surgery, our methods are not yet perfect. Excellent though they are, some of them will be modified; others discarded; and yet newer ones developed and perfected. Our obligation to our patients and to our own profession is to do the best we can with the best we have, and to continue to search for something better. Only thus is continual progress in urological surgery assured.

1127 Eleventh Street.

ACUTE SURGICAL ABDOMEN*

REPORT ON OPERATIONS IN THE SAN FRANCISCO EMERGENCY HOSPITAL DURING THE LAST TEN YEARS

By Edmund Butler, M. D.
San Francisco

Discussion *by Thomas O. Burger, M. D., San Diego; Charles T. Sturgeon, M. D., Los Angeles; Robertson Ward, M. D., San Francisco.*

One thousand eight hundred and two patients suffering from acute surgical conditions of the abdomen have been operated upon in my service in the San Francisco City and County Hospital during the last ten years.

The operations were on patients as follows: 997 patients with acute appendicitis; 154 with hernias, incarcerated or strangulated; 57 with acute cholecystitis; 79 with ectopic pregnancies; 138 with gunshot wounds and stab wounds of the abdomen; 122 with perforated peptic ulcers; 135 patients with bowel obstruction; 100 with multiple interabdominal injuries; 5 with rupture of spleen; 4 with rupture of kidney; 10 with rupture of urinary bladder; and 1 with rupture of stomach.

APPENDICITIS

Because more than one-half of the patients had appendicitis, a discussion of that particular affliction seems fitting. It is not my desire to appear to instruct regarding appendicitis and the complications, but to simply comment on some of our observations.

In the way of surgical treatment, there are many types of technique, many forms of incisions and many methods of drainage, all having their advocates. The multiplicity of method, however, is seemingly most confusing to those without great experience or training. Possibly more than half of the patients with acute appendicitis recover without even calling a physician. Of the other half a varying percentage develop complications. These complications often prove extremely serious and account for the high postoperative mortality.

The inflamed portion of the appendix may be in any part of the abdomen and it may perforate without causing any signs or symptoms of a local nature. In this group are many of our fatal cases. The axiom "Cramps followed by vomiting is appendicitis until it can be proven otherwise," is a reasonable and a safe guide. I am confident that a high percentage of the conditions treated as food poisoning or acute indigestion are appendicitis.

Is it ever justifiable to delay operation? In general the diagnosis of appendicitis should be followed by immediate appendectomy; nevertheless there are instances where delay increases the number of recoveries. One, where the peritonitis is localizing and the patient is improving, and two, when the patient is seen late, giving a history of a stormy generalized peritonitis, it is rational to delay, hoping for localization, later draining the abscesses if any develop. Doctor Stillman, my former chief, often said: "Operate when the rigidity exceeds the distention; do not operate when the distention exceeds the rigidity." In other words, in the patient who is dehydrated, extremely toxic, with greatly distended abdomen, and with pulse rapid and week, operation should be delayed and Ochsner's treatment for peritonitis instituted. Delay early in appendicitis is disastrous; delay late in appendicitis is often justifiable and life-saving.

DRAINAGE

As a rule general peritonitis does not require drainage. Localized abscesses do require drainage. It is well to allow plenty of time for localization and not to intervene before actual abscess formation has taken place. Every mass is not an abscess, and many a localized induration goes on to resolution and absorption. Abscesses that may be palpated through the rectum or through the vagina should be opened through that route, always catheterizing the patient first. In abdominal abscesses that require opening, one or two Penrose cigarette drains the size of the finger are sufficient for drainage. An abscess in the R. L. Q. is best drained through a muscle-splitting incision located slightly to the right of the most superficial point. In placing drains it is well to put the omentum around the drain to prevent the bowel from coming in direct contact with the drain. Fewer postoperative obstructions will occur if this procedure is carried out. When opening an abscess, the appendix should not be searched for unless it is easily located. It is folly to separate adhesions blindly and tear through edematous structures, contaminating the retroperitoneal cellular spaces and often damaging the bowel. The most dependent portion of the abscess should be explored with the finger for the presence of fecal concretions.

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* Read before the General Surgery Section of the California Medical Association at the sixtieth annual session, San Francisco, April 27-30, 1931.

ANESTHESIA

The form of anesthesia is important. Well localized abdominal abscesses coming in contact or near contact with the anterior abdominal wall may be opened and drained under local analgesia. Large pelvic abscesses may be opened through the rectum without any anesthesia, or at the most, a few inhalations of gas and oxygen or ethyl chlorid.

Under spinal anesthesia relaxation is complete and the removal of a very adherent inflamed appendix may be done with the minimum injury to abdominal wall and bowel. Spinal anesthesia, I feel, should be limited to persons without any arterial disease, and is particularly dangerous in coronary sclerosis or sclerosis of the cerebral arteries.

Nitrous oxid and oxygen, reinforced by ether vapor, is very satisfactory in the hands of the expert anesthetist. Ether I still believe to be the safest anesthetic we have; particularly is this true when those administering the anesthetic are not among that small group of expert physician anesthetists.

POSTOPERATIVE TREATMENT OF PERITONITIS AND ABDOMINAL ABSCESS

The postoperative treatment of peritonitis and abdominal abscess is carried out as follows:

1. The patient is placed in the position in which the abscess is dependent. The Fowler position is preferred for pelvic abscess. Shoulders should be slightly elevated and the pelvis raised slightly on the left for right iliac region abscesses.

2. Generally patients do not receive enough fluids. At least 4000 cubic centimeters of salt and glucose solution should be given subcutaneously, intramuscularly or rectally, by the Weeks method daily, until patient is able to retain and absorb liquids by mouth. There is never any excuse for neglecting to give salt solution subcutaneously or intramuscularly.

3. The stomach must be kept empty if patients are nauseated or vomiting. Normal peristalsis will not be instituted if the stomach is dilated. At times patients are too weak and toxic to vomit, so that the stomach dilates, fills and runs over. This condition always calls for lavage. If the patient continues to regurgitate gas and feels nauseated, the stomach should be lavaged. The use of a duodenal tube has actually saved many patients with acute dilatation and general peritonitis. I feel safe in making the statement, "If you are in doubt as to the condition of the stomach, pass the duodenal tube." The duodenal tube is left in position until the character of drainage changed from that of the small bowel content to that of the stomach content.

4. Morphin sulphate or some other efficacious sedative is given in sufficient quantity to give comfort.

5. Moist heat to abdomen is very essential if peritonitis is absent or peristalsis is delayed.

6. Food must not be given by mouth until there is sufficient peristalsis to move it out of the stomach and along the intestinal tract. A patient may be sustained ten to twenty days by intravenous glucose and subcutaneous salt solution. Oral feeding is instituted too early in most postoperative patients.

7. It is a reliable rule never to give solid food until peristalsis is active and patient is passing gas without the aid of a rectal tube.

8. Laxatives actually do a great deal of harm if given early. A patient convalescing favorably is sometimes doomed by a large enema. Irrigation of the rectum and lower colon through a rectal tube is all that is required until the gut has resumed normal tone.

Many are the complications that may occur during convalescence from the fatal cases of pylephlebitis, liver abscess, and extensive retroperitoneal cellulitis down to the slightest degree of localized peritonitis and of wound infection. In all of the complications due to the spread of infection, it is a wise rule to be very slow to explore.

The distention due to peritonitis is general, and is best treated by treating the peritonitis, only doing a jejunostomy or iliostomy when all other methods of relief have failed.

In the mechanical obstruction it is well to do an enterostomy as near the obstruction as is practical or, at the most, a short circuit of the region of the obstruction. I am referring to the patients having many adhesions in the region of the cecum. Extensive separation of adhesions usually is followed by rapidly spreading peritonitis and death. Occasionally a segment of bowel is dilated, the muscle paralyzed and acts as a complete block. An enterostomy proximal to the paralyzed loop relieves the obstruction and allow the distended loop rest and time to recover its tone.

490 Post Street.

DISCUSSION

Thomas O. Burger, M. D. (1301 Medico-Dental Building, San Diego).—Doctor Butler's subject, "The Acute Surgical Abdomen," most efficiently serves to bring to our attention again the disease appendicitis, which in spite of refinements in surgical skill and advancement in knowledge still finds its mortality on the increase.

Heretofore the physician or general practitioner who has been most frequently called in attendance has received most of the credit for this increase in mortality rate, whereas the so-called surgeon, through lack of judgment and faulty methods, has not been rightfully considered.

Although much has been said concerning this subject in the past, it is true that no important condition has received less discussion at our medical meetings in the past few years than that of appendicitis. If there is any hope of decreasing the mortality rate, it must result from our own efforts through education of the laity, more frequent discussion, and a better coöperation between the physician and surgeon.

In considering the presence of appendicitis it is well to bear in mind the so-called protected appendix, either the retrocecal or the one well surrounded by omentum. Here the usual findings may be masked or absent. There may be less than the usual pain, no rigidity, and only slight tenderness may be elicited. In this instance the leukocyte count will most frequently be the deciding factor, together with the clinical history. Although I have been impressed with the occasional finding of a nondetermining leukocyte count in advanced cases of appendicitis, yet for this understanding our diagnostic acumen should not in all instances be too dependent on the blood count.

We must also keep in mind those diseases arising outside of the abdominal cavity which may express themselves in abdominal pain or distress. I am sure that many of us have at some time seen abdominal pain, particularly from lung or cardiac disease, simulate clinically, many different types of acute abdominal crises. Diseases of the genito-urinary and nervous systems are also frequently to be considered as extraperitoneal factors in the production of abdominal pain.

I would like to emphasize here the importance in making an exact diagnosis, if possible, in an acute surgical abdomen. We should not be satisfied with the mere diagnosis of a surgical condition, only to find on entering the abdomen, much to our chagrin and embarrassment, that we are mistaken, with possibly very serious consequences to the patient.

The high perfection of anesthesia in modern surgery has, within the past few years, contributed very much in lowering the mortality and morbidity rate in abdominal conditions. No little consideration should be given to spinal anesthesia which, in my opinion, is the "life saver" in many surgical conditions of the abdomen. I am impressed with its resultant complete relaxation and more perfect work, less damage to contents of the abdomen afterward, and freedom from pain and untoward effect on the patient. This, after all, meets the requirements of a perfect anesthesia, at least in reference to the abdominal cavity.

I do not consider all cases of arterial disease a contraindication, but arteriosclerosis, very high tension, are doubtful cases on which to use spinal anesthesia. More recently in those abdominal conditions, particularly the lower abdomen requiring drainage of pus, I feel hesitant in its use where Fowler's position is preferred immediately after operation. During the past eighteen months 80 per cent of our abdominal operations have been carried out completely under spinal anesthesia, using novocain 100 milligrams, not exceeding 150 milligrams, with the preliminary injection of ephedrin, sodium amytol, and a particularly good-sized dose of morphin as an adjunct.

I am not in favor of its indiscriminate use for every abdominal operation; and again there are those few patients whom we must admit are not psychically adaptable.

The essayist has very well brought to our attention many important observations concerning the treatment of abdominal conditions, and their use is very highly recommended.

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Charles T. Sturgeon, M. D. (1930 Wilshire Boulevard, Los Angeles).—Our experience in the emergency service at the Los Angeles General Hospital coincides very closely with that of Doctor Butler's.

Appendicitis furnishes practically 60 per cent of the acute surgical conditions of the abdomen, and of this number approximately 40 per cent have developed some type of complications such as peritonitis, rupture, and abscess.

There are several reasons why so many cases of appendicitis are allowed to go on and develop complications, and without a doubt the doctor is not entirely responsible for this condition. Practically all patients seen by the doctor have received cathartics or enemas; some have been treated in this manner for several days. When seen, the condition is not typical of appendicitis and unfortunately too many men adopt a policy of waiting, which, of course, in early appendicitis is a very bad procedure.

The question of when to operate in acute appendicitis is before the development of complications. All patients in whom a diagnosis of acute appendicitis is made should be looked upon as patients needing emergency surgical intervention. While it is true that a large number of patients with acute appendicitis get well without surgery, there are at present no criteria by which one can base such a prognosis.

The mortality of operations for acute appendicitis before the advent of peritonitis is not high. It is not this type of case that can be blamed for the increasing mortality; it is the case in which complications have occurred, such as localized abscess, peritonitis, or obstruction of the bowel. When to operate after peritonitis has developed, depends on the type of peritonitis and the condition of the patient. In all cases of local peritonitis, operation can be safely done at once with the proper technique.

In cases of localized peritonitis with abscess, the condition is surgical but is not an emergency. Time can be taken to improve the patient's general condition.

In cases of spreading peritonitis or general peritonitis, surgery is not indicated. Treatment should be directed to the peritonitis, such as the Fowler position, heat to the abdomen, fluids, gastric lavage, and constant watching in case the patient develops a localized abscess, which should be drained as soon as diagnosed.

I agree with Doctor Butler in his statement that the appendix should be removed only in those cases where little damage is done in searching for the appendix. Patients who have only drainage should be told that it will be necessary to remove the appendix at a later date, as this type of case is prone to have recurrent attacks.

We have discontinued doing an enterostomy in peritonitis because of its high mortality and the little amount of drainage which took place. In its place we now use the Levin tube, which is passed through the nose and kept in until the patient has improved sufficiently to take fluids by mouth. In this way the stomach can be kept absolutely empty and the patient can be given large amounts of fluids which act as a gastric lavage. The only time that we now use an enterostomy is in cases of intestinal obstruction following an acute appendicitis and occasionally in a case of paralytic ileus when all other means have failed to relieve the patient. I must admit that in only a very few cases has it proved of any benefit.

We have used spinal anesthesia in practically all of these operations.

Doctor Butler has covered the subject of acute appendicitis so well that there is very little left to discuss or elaborate on. Doctor Butler should be thanked for again calling our attention to a condition which is responsible for so many of our emergency abdominal operations.

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Robertson Ward, M. D. (384 Post Street, San Francisco).—I sincerely hope that Doctor Butler may be able to report at a later date the "cathartic history" of those patients who developed complications with acute appendicitis. In this way I am sure he could point out that the 50 per cent of patients who recover from appendicitis without calling a physician are those who recover without physic. However, from the point of view of the surgeon, the problem is presented in its entirety when the patient comes under his care. It is in this situation that Doctor Butler's lesson of the relation of rigidity to distention may be used to good advantage. My personal experience has led me to the conclusion that appendicitis should be operated upon as soon as diagnosed except in the one instance which he cites, namely, when distention exceeds rigidity.

In the treatment of peritonitis I would be even more emphatic than Doctor Butler in warning against the use of drains. In the presence of general infection it is physically and physiologically impossible to drain the peritoneal cavity, and foreign material can only increase the density and permanence of postoperative adhesions. The abdominal wall and localized abscesses of the peritoneal cavity should be drained, as he suggests, with small Penrose strips.

The essayist has done well to remind us that the best surgery is the least that can be done to eliminate continued reinfection of the peritoneal cavity. I agree with him that spinal anesthesia is a real boon to the surgeon, but in these days when its popularity is increasing so tremendously, it is well for its friends to warn against its use in those patients so ill that any anesthetic or surgical procedure is likely to lead to a fatal outcome. Spinal anesthesia cannot be asked to perform miracles of healing, and only disrepute can come from its use upon moribund or extremely weak patients with low blood pressure.

In the postoperative treatment of patients with acute abdominal conditions, it is gratifying to note the unanimity with which surgeons of experience lay emphasis upon the two all-important, life-saving elements, namely, a high normal saline solution intake and continuous gastric lavage. A parenteral administration of 4000 cubic centimeters a day should be insisted upon. The fluid should all have a normal salt content of chlorid, and whether dextrose should be added depends upon the duration of treatment and the patient's consequent need of carbohydrate. One thing to remember is that a patient's circulation can never be overloaded with solution given subcutaneously. The chlorid loss through vomiting or continuous gastric or duodenal lavage is always high, but the stomach and upper intestines must be kept empty if peristalsis is to be reëstablished. This can best be done, as Doctor Butler states, not by repeated and exhausting stomach washes with a large tube, but by an indwelling, transnasal Levin duodenal tube, to which continuous mild suction is applied. By use of this method it is no longer necessary to guess when peristalsis is reëstablished or when food administration can safely be started.

OPTIC NERVE CHANGES IN NONTRAUMATIC NEUROLOGIC DISORDERS*

REPORT OF CASES

By Walter F. Schaller, M. D.
San Francisco

Discussion *by Otto Barkan, M. D., San Francisco, Joseph L. McCool, M. D., San Francisco.*

SCARCELY any neurological examination, apart from the peripheral nervous system, is complete without some idea of the state of the optic nerve. A proper neurological status includes examination of the vision, visual fields, appearance of the nerve head, and pupillary reactions. This has been a routine in private neuropsychiatric case records now numbering 4660. It has been of considerable personal interest and profit to review these case records, particularly in the light of incidence, diagnosis, and course. A paper of this character cannot of necessity be comprehensive, and I fear will be discursive, but it will at least represent the clinical experience of a neurologist over a twenty-year period. Papilledema, the Argyll Robertson phenomenon, optic neuritis and optic atrophy, and certain visual syndromes are considered.

PAPILLEDEMA

Papilledema, or choked disk, is characterized at the onset by vascular changes: contraction of arteries, tortuosity and dilatation of veins, and projection of the papilla; this progresses to a state of edema of the disk and surrounding retina with hemorrhages and white streaks of irregular patchy degeneration in and about the disk. Important is the long retention of acuity of vision with periods of dimness of vision and transitory blindness, first emphasized by Jackson.

Since Albrecht v. Graefe (1860) published his work on papillary stasis over seventy years ago, this condition has been the subject of much research and discussion, resulting in four principal theories, namely, of venous stasis; transport theory of the optic sheath; extension of brain edema; and the optic nerve lymph stasis theory. Wildbrand and Saenger [1] (1909) in their system devote two hundred eighty-one pages to papillary stasis, thirty-one of which are devoted entirely to theoretic discussion. The discussion still continues, but the tendency in later years has appeared to favor either the optic sheath theory or the lymph stasis theory (C. Behr), the latter explaining cases with and without intracranial pressure. Claude, Lamarche, and Durbar [2] state that intracranial pressure is accompanied by arterial hypertension of the retinal vessels, which condition is established by precise determination. When the equilibrium thus established is disturbed by a lowering of the retinal arterial pressure, signs of papillary stasis occur. In three cases the authors have found this fall in retinal pressure to precede the ophthalmoscopic evidence of stasis, calling attention to this fact without offering a definite theory of its mechanism. Nevertheless they favor a reflex vasomotor explanation to the mechanical theory.

L. Dupuy-Dutemps [3] has been concerned with the subject of pathogenesis since his Paris thesis of 1900. He believes papilledema is due to a compression of the central vein of the optic nerve with consequent venous stasis. In conditions of intracranial pressure the compression is effected by transmitted pressure to the optic sheath, affecting the vein at the exit from the optic nerve, about one centimeter from the retina; but local conditions may affect the vein retro-orbitally in the optic nerve itself, and also produce papillary stasis. Tilney [4] describes a canal from the third ventricle and lined by ependyma which extends laterally over the optic chiasm and optic nerves. He names this the supra-optic canal. Distention of this canal, by lesions obstructing drainage, is advanced as a cause of papilledema. It is the condition of intracranial pressure which particularly concerns the neurologist, and for the presence or absence of which he seeks information from the eyeground examination; however, an appreciable intracranial pressure may exist, even reported as high as 400 to 500 millimeters of water, without accompanying papillary stasis.

REPORT OF A CASE

The following case of spontaneous subarachnoid bleeding is significant in indicating the degree of intracranial pressure at which one may expect eyeground changes.

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* Read before the Eye, Ear, Nose, and Throat Section of the California Medical Association at the sixtieth annual session at San Francisco, April 27-30, 1931.

A male in the late forties was seized with a sudden onset of collapse and a complete persisting third nerve paralysis. A month later, after a night on a train, he again showed signs of collapse, complaining of severe headache, the pulse rate dropping to forty. An examination of the eyes showed a distinct edema of the left disk with one large and two lesser hemorrhages. Lumbar puncture revealed a zanthrochromic fluid under a pressure of 390 millimeters of water, without other important serological findings. The patient improved, the papilledema receded and has not recurred. A recent fluid pressure estimation was normal.

It appears to be a well-established fact that during increase of intracranial pressure with papilledema the disk swelling may recede in one or both eyes to a condition of atrophy without disk elevation. Farisotti[5] has explained this recession and atrophy by obliteration of the intravaginal space and replacement by fibrous tissue.

In recent years much interest has been directed to and a considerable literature has accumulated on the relationship of paranasal sinus disease to optic nerve stasis. When optic nerve stasis occurs, a brain tumor may be overlooked and a misdirected operation performed on the sinuses. An observation in point is here reported:

REPORT OF A CASE

A truck driver, age thirty-four, with a history of frontal and temporal headache and dizziness of several years' duration, consulted an oculist for dimness of vision seven months before he came under my observation. Papilledema of both disks, somewhat less than three diopters, and contraction of the visual fields were found. Pus was found in the left ethmoid cells and sphenoid cells, which were opened and drained, without, however, relieving the papilledema. Six months after this operation, when I first saw the patient, the condition had progressed to complete loss of vision. Bilateral papilledema, pathological pyramidal tract reflexes in the lower extremities, a higher pitched note on the left side of the skull, and the recent occurrence of Jacksonian epilepsy, commencing in the right upper extremity, definitely indicated cerebral pathology. The cerebrospinal fluid was under 850 millimeters of pressure. X-ray studies revealed some destruction of the dorsum of the sella and a very marked erosion of the floor. The symptoms were indicative of a left frontal brain tumor, and operation being decided upon, a left osteoplastic flap was made over this region. Brain puncture opened into a gliomatous cyst, from which about sixty-five cubic centimeters of yellowish fluid was removed. The patient made a good operative recovery, although he suffered a partial postoperative motor aphasia. The complicating sinus infection obscured the condition of brain tumor, which might have been discovered months earlier by skull studies and an estimation of the cerebrospinal fluid pressure, and blindness prevented by relieving intracranial pressure.

The ophthalmologist and the otologist must, moreover, ever keep in mind that a papillary stasis of central origin may be unilateral, and may be unaccompanied at the onset by intracranial focal symptoms and signs.

I have maintained for years that a diagnostic lumbar puncture, undertaken with proper precautions in suspected brain tumor cases, is of such aid in diagnosis as to outweigh the danger of herniation of the medulla into the foramen magnum. I have never had such an experience, and have not hesitated to perform a puncture, provided that the diagnosis was uncertain and the test would give important information. The patient should be in a reclining position and only a few cubic centimeters of fluid slowly withdrawn, noting any sudden fall of pressure by means of a manometer. Afterward, the foot of the bed should be elevated. So that no fluid will be unnecessarily withdrawn or lost, I use a Claude's pressure gauge. In a recent case of typical acusticus tumor, successfully operated by Cushing, with bulbar symptoms and signs of intracranial pressure, such as somnolency, mental lassitude, headache, especially on coughing and straining, but with no indications of papillary stasis, I withheld from puncture, but did so because the diagnosis was undoubted, not because I should have been hesitant to attempt it if the diagnosis had been in doubt.

Disk changes in acute epidemic encephalitis may occur as hyperemia, haziness, or a mild neuritis, rarely a true papilledema. That this, however, may occur has been reported by good authority in verified cases, and in a series of 235 encephalitic cases I observed two such examples. A similar situation exists in multiple sclerosis, which may be described, pathologically speaking, as a disseminated encephalitis. In my series of twenty cases of multiple sclerosis I observed no case of papilledema. Papilledema occurs most frequently in brain tumor, obviously because of the frequent occurrence of increased intracranial pressure. Two instances only of papilledema occurred in six verified brain abscesses. In a moribund patient with cerebral symptomatology of a week's duration an occipital abscess had ruptured into the ventricle without evidence of papilledema. In another case of verified cortical abscess with fatal outcome twelve days from onset, with definite involvement of the subarachnoid space, there was no evidence of disk changes. In both these cases the abscesses evidently decompressed into the ventricular and subarachnoid spaces, thus preventing internal hydrocephalus.

A papilledema of alarming degree may result from a cranial operation, as was the case following left mastoidectomy in a child. Sinus injury was suspected because of after-bleeding. A sinus clot one inch long was removed in a second operation, and the jugular vein ligated. Material from the vein was reported as a diplostreptococcus thrombosis. Six weeks following operation a paresis of the left external rectus and papilledema on the right side were noted, and a few days later papilledema appeared on the left side. The swelling increased to four diopters in both eyes. There were no other alarming physical signs; the disks finally receded, and in two months they were flat and the eyes regained normal function. Circulatory disturbance in the posterior fossa and consequent edema best explained the phenomena.

A brain tumor may cause papilledema without apparently being large enough to add materially to the contents of the cranial cavity or to interfere with the flow of cerebrospinal fluid. Such a condition occurred in a patient presenting a definite astereognosis in one upper extremity, enabling the localization and removal of a hazelnut sized tumor from the parietal cortex. The reason for such an occurrence is obscure and has been discussed by Spiller; it is a fact which has to be considered in the pathogenesis of papilledema.

ARGYLL ROBERTSON PUPIL

It is generally conceded that the optic nerve contains fibers concerned with light perception, as well as fibers concerned with visual images. The light fibers at first run a course similar to the visual fibers, decussating in the chiasm, but later separate from the visual fibers in the diencephalon, branching off before the external geniculate body is reached, to pass into the superior brachium (Karpus and Kreidl) to form as the afferent sensory arm a reflex arc with the sympathetic third nerve nucleii (Edinger-Westphal nucleii) by way of the superior colliculi and colliculonuclear tract. The crossed fibers of the latter (fountain decussation of Meynert) skirt the aqueduct of Sylvius. The hypothesis has been offered that these afferents are affected by a toxic spread, as in syphilis, through subependymal tissues, producing the Argyll Robertson pupil. The Argyll Robertson pupil has been reported in mesencephalic tumors, multiple sclerosis, alcoholism, epidemic encephalitis, and in both ocular and cerebral traumatism, so therefore is not to be regarded as unquestionably of syphilitic nature or as having a precise and constant pathological localization. The motor efferents from the third nerve sympathetic nucleii pass to the iris by way of the ciliary ganglion. The course of the fibers is ill defined, and Wilson[6] is authority for the statement that "Lesions of the oculomotor trunk nerve never cause reflex iridoplegia." Sven Ingvan[7] cites experimental and pathological evidence that light fibers run in the outer layers of the optic nerves and tracts and on the surface of the diencephalon. He quotes various authors to the effect that optic atrophy begins in the marginal region of the optic system. He found such to be the case in the pathological study of an early case of tabes with Argyll Robertson pupils and believes that degeneration of the superficially placed light fibers occasions the phenomenon.

Bing[8] places the lesion of the Argyll Robertson pupil between the primary visual neurone and the sphincter nucleii of the third nerve, for, he states, if the lesion were proximal to this area, a hemianopsia would occur; if distal, sphincter paralysis.

Spiller[9] reports a case obviously of tabes in which there was a left unilateral Argyll Robertson pupil, the right pupil contracting promptly to direct and consensual light stimulus. The affected eye, other than the light reflex iridoplegia, was normal except for variation in the size of the pupil and a paradoxical pupillary reflex. The certainty that light impulses from the left eye reached the right oculomotor nucleus was clinical evidence to Spiller that there must be a center in the oculomotor nucleus on each side concerned with pupillary action on the same side (Edinger-Westphal nucleus).

The description of Douglas Argyll Robertson in 1869 of the dissociated pupillary reaction which bears his name has scarcely been improved upon. His astute clinical observations include myosis, which he regarded as essential to his sign, and the preservation of good vision, noting the fact that there was ability to read fine print. The implication, therefore, was that the accommodative power or ciliary muscle function was intact. In one hundred and five personal cases of tabes the light reaction was impaired in seventy cases, myosis was noted in eleven, and mydriasis in seven. In seven cases with myosis the light reaction was impaired; in one the pupils reacted to light, three not noted. In the cases with mydriasis there were three in which the light reaction was normal and four cases in which it was impaired. In one case one eye was definitely myotic, the other definitely mydriatic, tabes alone apparently accounting for this condition. It is justifiable to diagnose an Argyll Robertson pupil as one in which the light reflex is definitely impaired, though not abolished, and in which the accommodation-convergence reaction is normal. Otherwise one must assume a sudden and complete light iridoplegia, not a reasonable assumption in a chronic condition, such as neurospyhilis.

Mehrtens and Otto Barkan[10] have studied the pupillary reaction in epidemic encephalitis by means of the Hess pupilloscope. In a series of thirty-six cases they found no example of the Argyll Robertson pupil and a doubtful iridoplegia in but one case. They therefore question the occurrence of the Argyll Robertson sign in epidemic encephalitis. Isolated reduction of the accommodative power (ciliary muscle function) was found in thirteen cases in their series, being present also in sixteen cases of ophthalmoplegia interna; in all, the accommodative power was affected in 80 per cent of the cases and was, therefore, considered the characteristic ocular sign in epidemic encephalitis. My material of two hundred and thirty-five cases is in general confirmatory to this view—in thirty-two cases blurred vision was a symptom clinically interpretative of impaired ciliary function. Four cases showed iridoplegia and five cases disturbed accommodation-convergence reaction (in one case lost) with normal light reflex—reversal of the Argyll Robertson phenomenon. There was but one case of Argyll Robertson pupil, and this was unilateral. In all, thirty-three patients showed disturbed light reactions. Associated with pupillary abnormalities, miosis occurred in six cases, mydriasis in fourteen. Dissociated iridoplegia, therefore, was rare, and the Argyll Robertson sign the least frequent of eye findings, occurring in less than one-half per cent of all cases. The various states of the pupil in encephalitis can be reasonably explained by the disseminated nature and inconstant localization of the encephalitic lesion, thus differing from a systemic and meningeal pathology found in tabes.

In thirty-six cases of chronic alcoholism fourteen cases showed disturbed pupillary light reflex, but in only two was this reflex entirely abolished. The pupillary disturbance is generally not an isolated phenomenon, but associated with other signs of peripheral neuritis, such as lost or diminished ankle jerks and diminished tactile sensation. Dependent upon alcoholic withdrawal, the prognosis is generally excellent, as the following case report will testify:

REPORT OF A CASE

A male in the middle forties when observed in April presented a mental condition characteristic of chronic alcoholism and physical complaints of occasional gastric crises and neuritic pains. His pupils were sluggish to light, especially one pupil; the right ankle jerk was lost, the left diminished. Previous to this examination the analysis of the cerebrospinal fluid was negative. His blood Wassermann was negative. After a six months' abstinence from alcohol his pupils reacted promptly and equally to light and his ankle jerks responded normally.

OPTIC NEURITIS AND OPTIC ATROPHY

A general discussion of these subjects is of too large scope to be fully attempted in this paper. Among the recent noteworthy contributions to optic neuritis is the scholarly paper of Walker [11] read last year before this section.

Thirty-four cases of optic neuritis are recorded in my series; seventeen of these occurred in a total of twenty cases of multiple sclerosis in which either atrophy, central scotoma, or transient blindness was noted. Four cases occurred in encephalitis. In eleven cases no definite cause of the condition was found, representing, therefore, a discouragingly high incidence of unknown etiology.

REPORT OF A CASE

A case illustrating methyl alcohol poisoning and amblyopia occurred in a temperate man, age sixty-one, who obtained his alcohol from a "high-grade bootlegger." Several persons who were likewise provided and partook of this same supply were unaffected, so he did not attribute his loss of sight, which came on within one day, to this case. Chemical analysis of a sample of the alcohol, however, showed it to contain in the neighborhood of 50 per cent methyl alcohol. Two days before the onset of visual disturbance he felt a malaise, suffered from slight headache, and went to sleep going home on a ferryboat. However, he had no other important neurological symptoms. When he was seen six days after onset of visual disturbance there was some light perception and some slight disk edema. Light perception increased, but useful vision was lost. In this case there appears to have been a selective action of a moderate amount of methyl alcohol in a susceptible individual.

REPORT OF A CASE

A case illustrating an optic neuritis due to paranasal sinus disease is the following:

A woman, age thirty-nine, complained of rapid loss of sight in the right eye following a severe head cold a month previously. An oculist found complete blindness in this eye and slight pallor of the disk. The pupil was slightly dilated. Other neurological complaints were stiffness and cramp in the legs, numbness in the right hand, and trigeminal numbness. After images and visual hallucinosis had occurred in the period of failing vision. The general neurological examination was essentially negative. Local investigation of the sinuses by an otologist revealed no definite evidence of disease. Special x-ray films of the right optic foramen showed the roof to be so indistinct as to be hardly discernible contrasted with the normal appearance of the left optic foramen. On this x-ray evidence the sphenoids were opened, revealing thickened membranes and pus. Eight days following the operation fingers could be counted, and five weeks later large objects recognized. The optic disk at this time showed a total pallor.

OPTIC ATROPHY

In the tabetic series (one hundred five cases) optic atrophy was noted in twelve cases; in the encephalitis series (two hundred thirty-five cases) no definite case of atrophy is recorded, but a neuritis was observed in four cases. Sands[12] reports a case of optic atrophy due to encephalitis and quotes other observed cases. In three of my cases the cause of atrophy was undetermined. In the multiple sclerosis series (twenty cases) disk pallor was noted in thirteen. There was one case of traumatic atrophy. The complication of optic atrophy in neurosyphilis brings up the question of the danger of arsenical and particularly tryparsamid therapy.

In rare cases tryparsamid has been incriminated in the production of optic atrophy. Woods and Moore,[13] studying visual disturbances in tryparsamid therapy, state that "Preëxisting syphilitic disease of the optic nerve is not necessarily a contraindication to the use of tryparsamid." In their series of one hundred ten patients whose eyes were examined before and during treatment, twelve had preëxisting disease of the optic nerve, and in these visual disturbances occurred in four. Cody and Alvis[14] believe that patients with optic involvement "are more liable to injury than normal patients, but show favorable response to treatment if properly controlled." In my experience if proper precautions be taken by observing any warning symptoms, such as blurring of vision, light flashes, contraction of visual fields, or disk changes, one may administer tryparsamid in moderate doses, say one gram weekly, with comparative safety. In a tabetic I observed a neuroretinitis in one eye after four injections of tryparsamid, which cleared; a month later two more injections were given and the neuritis recurred, but again cleared without nerve damage. The patient was considered unfit for tryparsamid therapy. The record is defective in this case as to the amount of the dosage, but it was probably three grams, which was the dosage generally employed when the drug was first used. In a case of neurosyphilis of taboparetic type, in which the right disk showed temporal pallor and vision was slightly, if any, affected, tryparsamid therapy was instituted after careful consideration and consultation with an oculist. The first series given consisted of four doses of one gram each. After an appreciable interval, with no untoward ocular manifestations, he has lately received seven doses of one gram each with no bad after-effects. As this patient had markedly defective vision in the left eye since an injury in childhood, the situation was not particularly favorable for the administration of tryparsamid, but it appeared to be the drug of choice, especially so as the usual neurosyphilitic remedies had been tried with a general depressing physical and mental effect. This case favors the idea that an adverse neurotrophic action on the optic nerve is not necessarily increased by a degeneration of the nerve.

OPTIC SYNDROMES

Of optic syndromes I shall discuss but two, namely, the temporal lobe syndrome and the Foster-Kennedy syndrome.

Lesions of the temporal lobe are characterized by peculiar psychological states, hallucinations of taste and smell, fits, and in right-handed individuals when the left temporal lobe is involved, by a particular form of aphasia: amnestic aphasia for nouns, or naming aphasia, a symptom of sensory aphasia frequently mistaken for and confused with motor aphasia, leading to a false localization. By actual invasion, pressure or edema, temporal lesions may involve secondary optic neurones, producing a homonymous field defect of quadrant or complete pattern on the side opposite the lesion. Attention is particularly drawn to the frequency and importance of naming aphasia, which, when associated with field defects in right-handed individuals, is, in my experience, a most dependable and precise localizing symptom.

REPORT OF CASES

In my one hundred five cases of brain tumor occur five verified temporal brain tumors, exhibiting naming aphasia. Three examples follow:

Case 1.—A young university instructor of languages while conducting his classes became much embarrassed by inability to recall nouns in Sanskrit; he then lost the power to recall names of common objects and the ability to name objects by sight. Visual hallucinosis for colors was present and an upper right quadrant visual defect found. A psychological state of unreality was well described by the patient. On operation a gliosarcoma was found involving a large portion of the left temporosphenoidal lobe.

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Case 2.—A case in which the great importance of a naming aphasia was not sufficiently evaluated is illustrated in the record of a young, right-handed married woman, presenting the tumor triad of papilledema, headache, nausea and vomiting. At the onset six months previously she complained of severe pain in the left eye and later of blurred vision and inability to see objects to her left unless she would turn her head to the left. Five months after onset involuntary tremors, weakness, and spontaneous past pointing developed in the right upper extremity; then followed speech difficulties: according to her husband she could not "marshal the right words to express ideas." Severe pain persisted in the left eye. Physical examination revealed a bilateral papilledema of four diopters, enlarged right pupil, a slight right-sided facial palsy of cortical type, and suspicious bilateral pyramidal tract signs in the lower extremities. Smell was doubtfully present in the left nostril, present in the right. Sight was not markedly defective, and no impairment of visual fields was found for form, although the field test was rendered doubtfully accurate by reason of speech difficulties. These consisted of a marked naming aphasia and paraphasia and defects in reading and writing, although a complicated verbal command was quite well executed and articulation was excellent. The physical findings pointed toward a left hemisphere lesion, which was sought for in the lower left fronto-Rolandic area; but the tumor, a large dural endothelioma weighing sixty-eight and a half grams, was located and removed from underneath the left temporosphenoidal lobe.

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Case 3.—A further example of the localizing value of amnestic aphasia was recently observed in the case of a right-handed child, age five, with an intracranial pressure syndrome in which the diagnosis apparently lay between encephalitis, abscess, brain tumor, or subdural hematoma. The disks showed a distinct papilledema and the cerebrospinal fluid was under pressure. With the exception of a slight ataxia and falling reaction there were no localizing symptoms. The mother related that at times there was difficulty in remembering names. In testing the child for naming aphasia, he was unable to recall the name of a pocket-knife when shown one and its use demonstrated. At times he was able to name common objects, at other times not. Ventriculograms were about to be made when the child developed a state of collapse. On puncture a brain abscess was found in the left temporal lobe.

Foster Kennedy[15] in 1911 described a syndrome due to an expanding lesion of the frontal lobes, reporting five verified cases and one clinical case. The symptom complex consisted of a "true retrobulbar neuritis with the formation of a central scotoma and primary optic atrophy on the side of the lesion, together with concomitant papilledema in the opposite eye." In three of the cases papilledema did not precede the retrobulbar neuritis on the side of the lesion.

REPORT OF A CASE

In my brain tumor series of one hundred five cases I had not observed this eye syndrome prior to the following case:

A male, age nineteen, was examined by an oculist in April 1930 for impaired vision in the left eye. A central scotoma was found in this eye; the right eye was normal. In August the right eye developed papilledema and the left disk showed pallor; vision in the left eye had diminished to slight peripheral vision. X-rays of the skull showed marked atrophy of the inner table and separation of the sutures. The sella was practically completely destroyed with possible remnants of the right anterior clinoid. Just above the left orbital plate there was some abnormal calcification. With the exception of impairment of smell in the left nostril the general neurological examination and serological tests were not noteworthy. A brain tumor was diagnosed in the left frontal lobe. This lobe and the first and second cranial nerves were explored; a marked hydrocephalus and ballooning of the cisternal system was found, but no tumor. As a result of this exploration a third ventricle tumor was considered probable. In a stormy convalescence the ventricles were repeatedly tapped, with the result that the fluid pressure finally returned to normal. Both eyes progressed to blindness with atrophy of both disks, more marked, however, on the left. It is highly improbable that a tumor could have been overlooked in the frontal lobe; moreover, the finding of a nonexpansive tumor in this locality would have been fortuitous, but not a true explanation of the syndrome.

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DISCUSSION

Otto Barkan, M. D. (490 Post Street, San Francisco).—Doctor Schaller's paper is so comprehensive that I shall touch on but a few points: Among other things I have also been struck by the relative rarity of papilledema in cases of brain abscess. In regard to the Argyll Robertson pupil, the idea is still prevalent that this sign stipulates an absent pupillary light reflex. Today the slightest diminution of the light reflex—and this can be measured numerically in relation to the norm by means of the Hess pupilloscope—in the presence of a normal accommodation-convergence reaction of the pupil constitutes a positive Argyll Robertson sign. Thus a very early diagnosis can be made and this not infrequently at a time when other signs and symptoms are absent or are not in themselves enough to establish a diagnosis. Herein lies the modern significance of the sign. Formerly a fully developed Argyll Robertson pupil was regarded as one of the early signs of neurosyphilis, but as the result of the neurological and serological advances of recent years it is no longer of such value. The definite diagnosis of the Argyll Robertson pupil in its earliest stages and its differentiation from other pupillary anomalies are, however, of the greatest value. The slightly serrated irregularity of this pupil which can usually be observed by transillumination or by the corneal microscope also serves to establish the nature of the pupillary anomaly and should always be looked for. The Argyll Robertson sign still continues to be the subject of lively discussion as it has been for over half a century. On one occasion late in the career of Argyll Robertson the sign was being discussed at length in his presence by a group of admirers and former students. When no satisfactory conclusions seemed probable, one of his former students closed the discussion with the remark that "In any case, I would rather be an Argyll Robertson pupil than have one."

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Joseph L. McCool, M. D. (450 Sutter Street, San Francisco).—Doctor Schaller's paper opens up an almost unlimited opportunity for discussion, yet one finds it difficult to add anything to what he has said.

I am reminded, however, of a little patient with primary optic atrophy which I had the opportunity of examining about six or seven years ago. At the time I saw her she was between three and four years of age. She was a seven months' child and one of twins. The first intimation the parents had that her vision was impaired was a propensity for bumping into furniture and falling over objects. As the twin sister had no trouble in orientation the parents suspected that there must be something wrong, but did not attribute the disability to faulty vision.

As the family were intimate friends of mine, I asked them to let me examine the child's eyes, which they did. The first glimpse of the fundus confirmed my suspicions that there was a congenital impairment of the visual field, for both optic nerves were atrophic. A later examination under an anesthetic confirmed the first examination. Her twin sister, as well as an older brother and sister, all had normal eyegrounds although the oldest sister had a convergent squint with no amblyopia. The squint was corrected with glasses.

I did not have an opportunity to examine the child again as the parents never requested another examination and I was reluctant to suggest it. For that and family reasons a serological examination of the blood and spinal fluid was not made. In the absence of this, lues of the central nervous system and infantile or juvenile tabes could not be absolutely excluded, but I do not believe that syphilis was the cause of the atrophy.

I have always considered this one of those rare cases of abiosis or abiotrophy—lack of vital force affecting the optic nerves in one of immature twins.

RABIES—ITS HISTORY IN NEVADA*

By Edward Records, V. M. D.
Reno, Nevada

So far as known the far West was free from rabies until 1909, at which time it made its appearance in Southern California, having been introduced directly from the East. Although recognized at that time, no effective steps were taken to eradicate it and the disease gradually spread, traveling northward through California and being introduced into Oregon in 1912 by a sheep dog taken across the mountains from Redding, California, to Wallowa County, in that state, where this infected dog, in a fight with a coyote, first introduced the disease among wild animals.

ADVENT OF RABIES IN NEVADA

Later the disease worked southeast, involving Idaho, Nevada, and Utah. Traveling by this devious route, the disease did not reach Nevada until April, 1915, although during its passage northward through California it appeared at times very close to the California-Nevada line, but did not cross into and establish itself in the latter State, presumably because at that time the disease was confined to dogs, not involving wild animals, until Oregon was reached as above.

Nevada appears to have finally been invaded by three routes, the first authenticated appearance of rabies being at the northern border of Humboldt County in April, 1915, the disease having crossed the state line at that point from Oregon. Later invasions took place from northeastern California into Washoe County and from Idaho into Elko County. Once introduced into the northern part of the state, the disease was spread by means of wild animals and other factors beyond control southward until every county in the state was affected to a greater or lesser extent.

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* From the Nevada State Veterinary Control Service.

* Read before the Washoe County Medical Society, March 8, 1932.

THE NEVADA ENVIRONMENT

The introduction of this disease into Nevada was probably the most serious calamity of its kind which had ever occurred, for in addition to the great losses of livestock, which inevitably followed its general distribution, it constituted a serious menace to the health, safety, and convenience of human beings. The matter was rendered more serious by the fact that this state, in common with the rest of the intermountain country, harbored a large number of predatory animals—coyotes, mountain lions, wild cats, etc.—which it was impossible to immediately bring under control and whose numbers could only be materially reduced by long, expensive and painstaking effort. The problem presented was, therefore, far different from that in more densely settled territory where practically the only animals capable of spreading the disease were the domesticated ones—namely, dogs and cats—which could, when occasion demanded, be put promptly under restraint by vigorously enforced legal measures.

THE NEVADA STATE VETERINARY CONTROL SERVICE

The appearance of rabies in Nevada did not find the state entirely unprepared to deal with the situation which it created. The 1915 session of the legislature had provided for the setting up at the University of the so-called State Veterinary Control Service, same being primarily a laboratory for the diagnosis of infectious and contagious diseases of animals and minor research in connection therewith. Thus making formal provision for carrying on a line of work which had previously been conducted only as a sideline in the Agricultural Experiment Station or in a more or less personal capacity by the veterinarians connected with that organization.

HOW NEVADA MET THE RABIES SITUATION IN 1915

This laboratory had already been organized and was in active operation when rabies appeared in the state, so that the laboratory diagnosis on suspected cases in wild and domesticated animals was undertaken and carried on without delay.

The Nevada State Hygienic Laboratory had also been in operation as a part of the Public Service Division of the University for several years, and was available to render certain services in connection with the emergency when it arose.

Arrangements were immediately made for the administration of the Pasteur treatment for the prevention of rabies, to bitten and exposed persons who presented themselves for that purpose to this laboratory. As an emergency measure, arrangements were made to secure the necessary raw material for these treatments, consisting of fixed virus of various attenuations, from the California State Hygienic Laboratory, which had been rendering a similar service in that state for some time. Later this material was secured direct from the United States Public Health Service Laboratory at Washington.

The administration of these treatments at the Nevada State Hygienic Laboratory was continued until the end of 1920, when the distribution of this material by the United States Public Health Service was discontinued. Since that time the administration of these treatments has been carried on by the physicians throughout Nevada, they using material secured from commercial laboratories. The expense of the treatment is now borne entirely by the patient or, in the case of indigents, by the counties concerned, in the same manner as other medical services are extended when needed to the indigent portion of our population.

HUMAN RABIES IN NEVADA

During the period from 1915 to 1920, when this work was conducted by the State Hygienic Laboratory, 186 persons received treatment as follows:

1915	33
1916	32
1917	38
1918	37
1919	27
1920	19
	186

In addition to the above, an unknown but considerable number of persons received treatment from practicing physicians during this same period. While no definite figures are available, it is estimated that probably at least four hundred persons have received antirabies treatment in this State since 1915.

It is gratifying to note in this connection that, so far as known, no one who has received this treatment in Nevada, either at the State Hygienic Laboratory or under the auspices of practicing physicians, has developed rabies.

To date, so far as known, at most only two persons have died of rabies as the result of exposure to infection in Nevada. Neither of these patients received preventive treatment. One died in an isolated location during a storm-bound period without medical attention, but the history and symptoms reported leave little doubt as to the diagnosis. The other case was a man bitten by a dog, which afterward proved to be rabid, who left Nevada and was lost track of. This man was reported to have died of rabies later.

THE PREDATORY ANIMAL PROBLEM IN NEVADA

The situation, however, relative to the control of the predatory animals of the state was not so good, no adequate financial or statutory provisions being at that time in existence for the carrying out of this work. In June, 1915, presentations were made to the Federal Government urging the vital necessity for such eradication measures. In response to this appeal, Mr. E. R. Sans of the Bureau of Biological Survey, United States Department of Agriculture, was placed in charge of this work, arriving in Nevada the latter part of September, 1915. Mr. Sans established headquarters at Winnemucca and soon had a rapidly increasing force of hunters scattered over the state conducting a vigorous trapping and poisoning campaign under his direction.

As the Federal Government did not feel warranted in carrying on this work indefinitely unless active coöperation in it was undertaken by the state, a conference was held at Winnemucca in January, 1916, to devise ways and means for affording financial and other coöperation with the Federal Government. This meeting was called and presided over by the Governor, who was actively alive to the gravity of the situation. There were present representatives of the State Board of Health, the State Board of Stock Commissioners, the State Board of Sheep Commissioners, the University of Nevada; practically all the counties of the state, and the United States Bureaus of Animal Industry and Biological Survey.

As a result of this conference, it was decided that the State Board of Stock Commissioners and the State Board of Sheep Commissioners should each appropriate the sum of $10,000 out of their funds, and that a state deficiency should be created to the extent of $10,000, to be repaid out of the general funds by a relief bill in the next legislature, for carrying on this work in conjunction with the federal authorities. This arrangement placed the heaviest financial burden directly upon the livestock interests of the state though the general fund contributed to the total, which was a proper proceeding in view of the fact that the problem presenting itself concerned the public health as well as being an economic menace to the livestock industry.

THE NEVADA STATE RABIES COMMISSION

For the purpose of continuing the work covered in the foregoing summary and enabling the State of Nevada to enter into a formal agreement with the Bureau of Biological Survey of the United States Department of Agriculture and for providing definite financial support for the work carried on under such coöperative agreement, the state legislature of 1917 passed an act, Chapter 51, Statutes of Nevada, 1917, approved March 8, 1917, creating the State Rabies Commission.

This Act provided for a State Rabies Commission, consisting of the Governor, as ex officio chairman, the director of the State Veterinary Control Service to act as secretary of the commission, and one member to be appointed by the Governor from the State Board of Health, the State Board of Stock Commissioners, and the State Board of Sheep Commissioners. All the members to serve without salary, but to be allowed their actual expenses incurred in carrying on the work of the commission. The same Act carried an appropriation of $35,000 per annum for the fiscal years 1917 and 1918, this appropriation to be met by an *ad valorem* tax of two cents on each $100 of taxable property in the State of Nevada.

The State Rabies Commission, as created by the legislature of 1917, continued unchanged until 1921. In that year the legislature passed a new Act continuing the State Rabies Commission, but providing also for County Rabies Boards to coöperate with same. Under this Act the appropriation from the state general fund was cut in half and the various counties authorized to raise and expend funds in coöperation with the State Rabies Commission and the United States Bureau of Biological Survey. The actual control of the work ostensibly still resting, so far as the state was concerned, in the State Rabies Commission.

THE COUNTY RABIES BOARDS

It is presumed that this Act was passed in good faith with the idea of arousing and sustaining local interest in the work. As it passed one-half of the contemplated expenditures from the state tax rate to the county rates, however, there may have been an element of political expediency involved. The results, however, were decidedly unsatisfactory.

The multiplicity of county rabies boards with which it was necessary to coöperate greatly increased the administrative overhead. A large element of local politics also developed in connection with employment of hunters and where they should work. Another complication arose out of the fact that only eleven of the seventeen counties provided the necessary tax levy to carry on the work. Later rabies appeared in several of the six non-coöperating counties and, in the absence of local funds, federal and state hunters had to be diverted to them to meet the emergency in unduly large numbers. This naturally was resented by the counties which had raised their own funds.

THE PRESENT STATE RABIES COMMISSION

The 1923 legislature repealed this county coöperative act and again provided for a single agency—the State Rabies Commission to coöperate with the Federal Government. Except for some minor changes dictated by experience, this Act was identical with that of 1917.

STATISTICS ON PREDATORY ANIMALS

The results of the activities of the United States Bureau of Biological Survey and the State Rabies Commission working together in terms of non-domesticated animals, actual or potential carriers or transmitters of rabies, destroyed for the period from 1915 to 1930 inclusive, are shown in the following table.

	Coyote, bob cat, lion	Miscellaneous (Badger, fox, mink, otter, porcupine, raccoon, skunk, weasel, beaver, civet cat, muskrat)
1915-16	10,802	2,080
1917-18	14,862	3,394
1919-20	11,092	1,831
1921-22	12,193	334
1923-24	11,776	590
1925-26	10,695	580
1927-28	9,335	381
1929-30	9,004	234
Totals	89,759	9,424

Chart 1.—*Rabies Examinations by State Veterinary Control Service—1915-1931*

	Exam.	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	Totals
Coyotes and Foxes	Pos.	56	95	41	23	11	8	15	18	5	3	....	1	4	2	2	2	....	286
	Neg.	7	10	2	5	4	....	2	5	7	2	1	2	2	....	1	....	....	50
	Dis.	4	9	4	3	2	2	2	3	1	1	1	....	....	....	....	....	....	32
Bobcats	Pos.	....	....	....	5	1	....	1	4	3	....	....	....	2	....	....	....	....	16
	Neg.	....	....	....	....	2	....	....	....	....	....	....	....	....	....	....	....	....	2
	Dis.	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Dogs	Pos.	9	20	14	5	10	12	12	15	6	5	2	9	3	3	3	4	5	137
	Neg.	6	29	30	18	8	10	12	21	6	7	8	10	22	9	11	11	9	227
	Dis.	1	....	3	3	2	2	3	1	1	....	1	2	2	3	....	3	1	28
Cats	Pos.	1	11	9	1	....	3	2	2	2	1	....	1	4	....	....	....	....	37
	Neg.	....	4	5	3	2	4	1	3	2	3	1	2	....	....	5	1	1	37
	Dis.	....	1	....	....	1	....	....	....	....	1	....	....	....	....	....	....	....	3
Cattle	Pos.	12	20	11	8	6	8	2	2	1	1	1	4	3	2	1	....	1	83
	Neg.	6	10	9	9	6	7	....	2	4	1	....	4	2	2	2	3	1	68
	Dis.	3	....	....	2	1	1	....	....	2	....	....	....	....	1	....	1	....	11
Hogs	Pos.	1	1	....	1	1	....	....	....	....	....	....	1	....	....	....	....	....	5
	Neg.	....	2	4	....	....	....	2	1	....	2	....	....	1	....	....	....	....	12
	Dis.	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Horses and Mules	Pos.	....	1	5	1	....	....	1	....	....	....	....	....	....	....	....	....	....	8
	Neg.	....	8	....	2	2	....	1	....	....	....	....	....	....	....	....	....	....	13
	Dis.	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	1
Sheep and Goats	Pos.	1	3	2	....	....	....	....	1	1	....	....	....	....	2	....	....	....	10
	Neg.	2	2	3	2	....	....	....	....	....	....	1	1	....	....	....	....	....	11
	Dis.	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	1
Miscellaneous*	Pos.	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	1
	Neg.	....	....	....	1	....	1	....	....	....	....	....	....	....	....	....	....	....	2
	Dis.	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	1
Human	Neg.	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	1
Total	Pos.	80	151	82	44	29	32	33	42	18	10	3	16	16	9	6	6	6	583
	Neg.	21	65	53	40	24	22	19	32	19	15	11	19	27	11	19	15	11	423
	Dis.	9	10	7	9	6	7	5	5	4	2	2	2	2	4	0	4	1	79
Totals		110	226	142	93	59	61	57	79	41	27	16	37	45	24	25	25	18	1085

Legends: Pos.=Positive. Neg.=Negative. Dis.=Discarded because of decomposition.

* Miscellaneous=Neg. {1 Ground squirrel / 1 Skunk} Positive, 1 Skunk. Discarded, 1 Rooster.

For convenience these have been segregated into two groups. In column one are listed only the strict predators—coyote, bobcat, and lion, known by experience to be serious and active transmitters of the disease. In the second column are included a miscellaneous group taken or destroyed, largely accidentally, incident to operations directed against the first group, but within which are included many occasional or potential transmitters of rabies.

The above table includes only animals killed by official hunters and definitely accounted for by the turning in of furs or scalps. In addition, these same hunters destroyed a large number of predatory animals by poisoning which were never found and subjected to an official count. Estimates as to the number of these unaccounted for animals are of course somewhat uncertain, but it would seem reasonably safe to assume that they amounted to a number at least equal to 20 to 30 per cent of those definitely accounted for.

In addition to these official activities, a very large number of predatory animals were of course destroyed by private parties. Owing to the high price of furs during much of this period, amateur and professional fur trappers were particularly active and accounted for a large number of predatory animals. In addition, private individuals destroyed, by shooting, trapping or poisoning, an additional large number with the idea of protecting their own livestock against infection with rabies and direct depredations from killing by predatory animals in their localities.

COSTS OF PREDATORY ANIMAL CAMPAIGN

The official expenditures in connection with this campaign for the control of predatory animals are briefly shown in the following table:

	Net State	Gross Federal
1915-16	29,511.05*	55,914.78
1917-18	28,330.31*	71,014.91
1919-20	29,023.13	91,681.35
1921-22	23,039.31°	61,297.82
1923-24	42,757.79°	63,000.46
1925-26	35,495.48	58,792.91
1927-28	29,745.41	51,444.19
1929-30	34,360.47	60,086.52
Totals	252,262.95	513,232.94

* Furs all went to Federal Government until May, 1917, agreement.

° Includes counties.

The first column, covering the expenditures of state and county funds, represents the net expense; proceeds from the sale of furs, miscellaneous equipment and supplies and refunds having been deducted.

The second column, covering the expenditure from federal funds, represents the gross expenditure from same, the proceeds from the sale of furs taken by hunters in federal employ not being deducted; no authentic figures covering same being available. After allowing, however, for any possible reduction in the actual federal expenditures arising from the sale of furs, it is quite clear that the expenditure of federal funds has far exceeded that of state funds in connection with this work.

In this connection it should be stated that practically all expenditures from state and county funds went to the actual work of predatory animal control; the Federal Government having provided during the entire period for all the expenses in connection with the administration of the work. During the entire period of its existence the State Rabies Commission has expended for travel expense, administrative equipment, etc., only a few hundred dollars.

TABULATION OF EXAMINATION RESULTS

A tabulation of the examinations for rabies at the laboratory of the State Veterinary Control Service for the period from 1915 to 1931 inclusive, is shown in Chart 1.

Particularly striking features are the marked decrease in the number of examinations toward the latter part of the period covered, and the proportionate increase in the number of negative findings. While this is a very good general index of the decrease of rabies in the state, it cannot of course be claimed that it reflects same on a strictly mathematical basis.

Part of the decrease in the number of specimens submitted is naturally chargeable to the fact that as familiarity with the disease increased throughout the state, fewer specimens were submitted; the more obvious cases being merely classed as rabid on the basis of history, symptoms, and other indications shown without the submittal of material for laboratory examination.

This same factor probably accounts more or less for the proportionate increase in the negative laboratory diagnoses; there being a tendency in recent years to select for forwarding to the laboratory in a general way, only the somewhat doubtful cases.

Another very significant trend shown in this summary is the rapid relative increase during recent years in the amount of material from dogs submitted, as compared to that from predatory animals; the number of dog specimens now being received markedly exceeding that of predatory animals.

IN CONCLUSION

To sum up somewhat the situation as it has developed during the past seventeen years, and the present status of rabies in the state, it would seem quite safe to draw certain general conclusions as follows: The activities of state and federal hunters plus those of private parties, perhaps supplemented slightly by certain natural conditions, have markedly reduced the number of predatory animals ranging the state. This reduction in number plus, perhaps, other not very well understood natural factors has reduced the menace relative to rabies to livestock from this source to almost a negligible point.

Just at the present time, therefore, it would seem that the rabies problem is practically on the same basis here as it is in the longer settled and more thickly populated states, namely, one of the dog and public health.

The adequate handling of the dog problem in connection with rabies has, of course, always been and now is a difficult one, being badly complicated by the public attitude toward the dog, which varies all the way from indifference to an unduly sentimental one. This attitude makes adequate dog-control measures extremely difficult, especially over an effectively long period of time. Public sentiment, generally speaking, supporting such activity only for brief periods during severe local outbreaks of rabies.

The situation is, of course, in Nevada still somewhat complicated by the fact that to a certain extent the still existent predatory animal population serves as a reservoir from which the dog population of the various communities is periodically reinfected with rabies.

Among the measures which have been tried to a certain extent in this state and elsewhere for the handling of the dog problem and which may be used here by the public health and livestock sanitary authorities as opportunity presents itself are the following:

The elimination in so far as possible of all ownerless dogs and the discouragement of the nominal ownership of dogs of little or no value through the vigorous enforcement of relatively high licensing fee ordinances.

The general immunization against rabies of all dogs in a community or area either through a campaign of public education or legal compulsion, or a combination of the two. On the whole, the results obtained in this state and elsewhere from this procedure appear to have been good, though it cannot be relied on absolutely, owing to the factors of the occasional missed dog and individual cases of failure to develop immunity.

Another procedure, namely, that of the actual restraint of the dog population through the prohibition of dogs running at large or muzzling, probably has little of value to offer owing to the factors of public sentiment already cited, they have, generally speaking, been failures in the United States though conspicuously successful in England and some other foreign countries.

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SURGERY OF THE KIDNEY DURING PREGNANCY*

REPORT OF CASE

By Franklin Farman, M. D.
and
K. C. Gummess, M. D.
Los Angeles

Discussion *by William E. Stevens, M. D., San Francisco; James R. Dillon, M. D., San Francisco; Lyle G. McNeile, M. D., Los Angeles.*

KIDNEY surgery during the pregnant state, though not common, is by no means rare. In 1915, before the American Association of Genito-Urinary Surgeons, Schmidt[1] reported a collected series of thirty-six cases, including his own case of nephrectomy for renal tuberculosis. Of these, thirty go to the credit of Hartmann. Twyman (cited by Davis)[2] has performed twenty-six nephrectomies during pregnancy, one patient dying of eclampsia on the following day. Mussey[3] reported fourteen kidney operations during pregnancy carried out at the Mayo Clinic, which included nine nephrectomies. Many others have recorded instances of renal surgery during pregnancy, among whom may be mentioned Bugbee,[4] Reder,[5] Davis, Andre,[6] and Alexandroff.[7] In the authors' case, nephrectomy for abscess of the kidney was carried out during the fifth month of pregnancy and the patient delivered of a healthy baby by cesarean section during the eighth month.

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* Read before the Urology Section of the California Medical Association at the sixtieth annual session, San Francisco, April 27-30, 1931.

GENERAL DISCUSSION

In view of the importance of kidney complications arising during pregnancy, some of which demand surgical interference, we therefore would like to discuss this phase of the surgery of pregnancy.

Obstetricians and surgeons in general (Williams,[8] Anspach,[9] DeLee[10]) agree that imperative surgical operations upon pregnant women may be performed without undue risk to either mother or child. But at the same time they emphasize that if the indication is not pressing, it is advisable to defer interference until after delivery so as not to subject the patient to added strain.

The most frequent surgical lesions complicating pregnancy are: appendicitis, gall-bladder disease, and pelvic tumors (fibromyoma, ovarian cysts). Many other operations may be performed during pregnancy, such as thyroidectomy, breast amputation, gastro-enterostomy, rectal operations and renal surgery; in fact any imperative surgical procedure may be carried out. However, it is a common observation that during the pregnant state the general health of the patient frequently is improved and disease processes may be temporarily inhibited.

The mortality rate of surgery during pregnancy apparently is no greater than that of surgery upon nongravid women. In Tarnier's Clinic [11] in Paris the mortality was 0.5 per cent in a series of 113 operations. At the Mayo Clinic the mortality rate has not been greater than that for similar operations upon nonpregnant women.

Likewise, it is surprising to note that the number of miscarriages is not appreciably greater. Savage [12] concludes that any operative procedure on the uterus itself involves a 15 per cent chance of interrupting the pregnancy. Brindeau [11] and Juge believe that operations on the external genital organs seem more liable to interrupt pregnancy than do others and, therefore, advises against doing these until after delivery. Mussey cites one miscarriage in a total of fourteen kidney operations performed during pregnancy at the Mayo Clinic. Of Schmidt's collected series of thirty-six cases of renal surgery, no effect was noted upon the pregnancy in twenty-eight instances. In Twyman's experience with twenty-six nephrectomies, twenty-two went to full term. Greenhill (cited by Savage) designates the time in which a woman would menstruate if not pregnant as the vulnerable time and advises against surgery during this period. All authorities agree that if surgery becomes necessary during the course of pregnancy it should be carried out within the first six months.

INDICATIONS FOR RENAL SURGERY DURING PREGNANCY

The indications for renal surgery during pregnancy are limited and should be restricted to only those operations imperative to the life or future health of the mother. Bugbee summarizes as follows: Nephrectomy for tuberculosis, newgrowth, some cases of pyonephrosis and occasionally for nephrolithiasis, hydronephrosis or a rare lesion is carried out at a stage when a local cure and the preservation of general health is possible, but the removal of a kidney for infections, even of the fulminating type of pyelonephritis, is extremely rare, owing to a better understanding of the causation and treatment of kidney infection. Braasch [13] concludes that unilateral lithiasis should not cause any serious complication during the course of pregnancy or labor. With bilateral nephrolithiasis, however, renal insufficiency may interfere to such an extent that induced labor may be necessary.

Professor Andre reports a case of nephrectomy for tuberculosis on a woman pregnant three months. He raises an interesting question: In case renal tuberculosis is found at the beginning of a pregnancy, should one operate at once or allow the pregnancy to continue to term and, following delivery, operate some weeks later for the kidney lesion? I quote his opinion: " . . . to me there is no doubt as to the answer. When so many times one sees what a terrible 'lashing' is given to renal tuberculosis by pregnancy, it seems to me one would not hesitate to operate at once if it were discovered during the first months of pregnancy . . . if it were not found out until the two or three last months, it would seem, then, to be an advantage to wait until after the delivery, on the condition it be understood that good health was maintained and that no accidents happened that necessitated an immediate operation, such as pyonephritis."

The kidneys, no doubt, in a great many cases of pregnancy are put to a severe test and are more easily involved than in the nongravid state. They are subject to degenerative changes and to infection: nephritis, pyelitis, and pyelonephritis may make their appearance. It has been clinically observed that many of the nephropathies of pregnancy tend toward a spontaneous cure after delivery without causing permanent renal changes.

Renal surgery, and especially nephrectomy, during pregnancy carries with it the extra hazard of ensuing eclampsia because of the demands made upon the remaining kidney to compensate for the loss of its fellow and to take care of both maternal and fetal secretion. Hinman, however, has shown the remarkable power of compensation of one kidney during the disability or after removal of its fellow, and I assume that this compensatory change goes about equally well during pregnancy.

Renal surgery during pregnancy offers no technical disadvantages in the early months, but later the enlarging gravid uterus may limit somewhat the operative approach to the kidney. Any operative procedure should be carried out speedily and conservatism should be the rule—simple nephrectomy with drainage may be preferable to difficult nephrectomy or prolonged search for calculi. The generous use of morphin before and after operation is indicated to forestall spontaneous abortion.

Mathé,[14] in a recent article upon abscess of the kidney, cites two distinct types: (1) the acute hematogenous, secondary to staphylococcal infection elsewhere in the body which is usually manifested in the skin, and (2) the subacute or chronic urogenous type, associated with pyelonephritis, and secondary to trauma, lesions of the kidney and stasis in the upper or lower urinary tract. The case which we wish to report is of the second or urogenous type occurring during pregnancy.

REPORT OF CASE

Mrs. S., age twenty-four, was admitted to the California Hospital on October 16, 1928, on the service of Dr. K. C. Gummess, giving the following history: During the fourth month of her first pregnancy she developed acute recurrent attacks of high fever, right renal area pain, pyuria with frequency of urination, and some dysuria. She was treated for a pyelitis of pregnancy by medical management, improving sufficiently to leave the hospital after ten days.

The attacks recurred with increasing severity and she again entered the hospital three weeks later (November 5, 1928) distinctly a very ill patient. The pyrexia recurred daily, varying from normal to 104 degrees Fahrenheit. Chills were frequent. Nausea with vomiting was distressing. There was frequency of urination without much dysuria and some incontinence finally occurring. The daily output ran between 1200 and 3000 cubic centimeters. Marked anemia developed, with a hemoglobin running under 50 and the red cell count dropping below 3,000,000. The leukocyte count averaged 16,000. Two blood cultures were sterile and, likewise, blood smears for the malarial parasite were negative (past history revealed malarial attacks at the age of fifteen years while residing in Panama).

On November 26, 1928, the author was called in consultation. Cystoscopy showed a moderate generalized cystitis with pronounced trigonitis. The dome of the bladder was pushed in by the gravid uterus (five months pregnancy). Both ureteral orifices were difficult of location because of the distortion. Bilateral ureteral catheterization was carried out. Prompt and rapid flow of urine from both kidneys. The catheters were left *in situ* and the patient returned to ward.

At the end of five hours a pelvic lavage of both kidneys, using silver nitrate solution, one per cent, was done and the catheters then removed.

Plain films of the urinary tract showed the right kidney slightly larger than the left, otherwise negative except for the presence of fetal bones.

The patient failed to improve; recurrent fever with chills continuing, anuria and exhaustion increasing. The blood pressure remained around 100/60. On December 5, 1928, an obstetrical consultant, Dr. Lyle McNeile, made a diagnosis of pyelonephritis and suggested possible kidney drainage. He did not think abortion (some six months pregnant) would help the patient.

On December 13, 1928, there was muscle rigidity with extreme tenderness over the entire right kidney area and, likewise, there was a distinct tenderness in the right costovertebral angle. The left kidney region was not tender. With a diagnosis of septic perinephritis, pyonephrosis, or perinephritic abscess, we advised operation.

Accordingly, on December 14, 1928, right nephrectomy under gas-ether anesthesia was performed.

Findings.—The kidney was enlarged one and one-half times, having a soft consistence with a red-gray surface, studded with multiple subcapsular abscesses. There was a moderate amount of perirenal edema with adhesions and the upper portion of the ureter was enlarged, edematous, and dilated.

The pathologist's report showed miliary abscesses throughout the kidney, a culture of the pus yielding hemolytic streptococci.

Convalescence was slow but steady, and during this period three transfusions of whole blood, 500 cubic centimeters each, were given with marked beneficial effect. The patient was discharged from the hospital four and one-half weeks following nephrectomy.

Pregnancy continued to the eighth month, at which time Dr. K. C. Gummess performed a classical cesarean section, delivering a live female child weighing six and one-half pounds.

Both the mother and child are now in good health. A year later therapeutic abortion for a three weeks' pregnancy in this same patient was carried out. Urinalysis at this time showed a moderate number of pus cells with *Bacillus coli* present in the culture. A *Bacillus coli* infection was found in the left (remaining) kidney previous to right nephrectomy.

CONCLUSION

1. Renal surgery during pregnancy carries with it about a 15 per cent chance of miscarriage, either immediate or before reaching full term.

2. The mortality rate for all types of surgery, including kidney surgery, during pregnancy is no greater than that for similar operations in the nongravid state.

3. Kidney surgery during pregnancy should be restricted to those operations which are imperative to the life or future health of the mother.

4. The most frequent kidney complications of pregnancy requiring surgical treatment are: renal tuberculosis, calculus pyonephrosis, fulminating (septic) pyelonephritis and cortical abscess of the kidney.

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Urinalysis

	Bladder	Right Kidney	Left Kidney
Pus	Large amount	Large amount	Moderate amount
Red blood cells	Few	Few	Few
Culture	B. coli and streptococcus hemolyticus	B. coli and streptococcus hemolyticus	B. coli
Tuberculosis	Negative		

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DISCUSSION

William E. Stevens, M. D. (870 Market Street, San Francisco).—I am in full accord with Doctors Farman and Gummess in their opinion that operation on the kidneys during pregnancy is not only justifiable, but is often strongly indicated.

A recent review of thirty-four reported cases of nephrectomy during pregnancy for pathologic conditions of the kidney other than tuberculosis showed the following results: Two patients died and one suffered from a slight attack of uremia. The month of pregnancy in which operation was performed in thirty of the cases was as follows: four in the second month, seven in the third month, six in the fourth month, seven in the fifth month, two in the sixth month, two in the seventh month, one in the eighth month, and one in the ninth month. The pregnancy continued to term in seventeen of twenty-six cases; abortion occurred in six; labor was induced in two; and the fetus and the mother died in one case. The child was normal in all of the seventeen cases continuing to term. In two hundred and sixty-one cases of pregnancy occurring in nephrectomized women, Matthews found that there were two hundred and fifty normal and fifteen complicated labors with but two deaths.

A few years ago, in preparing a paper on "Renal Tuberculosis During Pregnancy," I reviewed the literature pertaining to that subject and found a record of but sixteen cases, in addition to two of my own, which had been reported up to that time. Summarizing the results in fourteen of these in which nephrectomy had been performed the results were as follows: All except one of the nephrectomized mothers recovered. Normal children were delivered at term in eight of the cases in which the effect on the pregnancy was mentioned. Abortion occurred in three, but not until two months after operation in one of them. The possibility of self-induced abortion must be considered in this case. Another patient was delivered of a dead fetus at seven months, but this was four and one-half months after nephrectomy and death was not due to the operation. The month of pregancy in which the tuberculous kidney was removed was mentioned in ten cases and was as follows: One in the second month, two in the third month, three in the fourth month, three in the fifth month, and three in the sixth month. The effect of pregnancy on the renal tuberculosis in five non-operated cases was exacerbation of the condition in three, death in the eighth month in one, and no noticeable change in one. The result of the tuberculous infection on the course of pregnancy and on the child in four cases not operated upon was as follows: Abortion occurred in two instances; one child was infected at birth and subsequently died of tuberculous meningitis; and one normal child was delivered at term.

A study of these statistics demonstrates the advantage to both mother and child of immediate nephrectomy in the presence of unilateral renal tuberculosis complicating pregnancy. In this connection the hypersensibility to infection of the offspring of tuberculous parents should also be considered. Norris found that there was an average infant mortality of 58.83 per cent of children born of tuberculous mothers.

I am in accord with the majority of urologists who have written upon this subject in the opinion that, regardless of pregnancy, nephrectomy is always indicated as soon as the diagnosis is made if the infection is limited to one kidney. The focus of tuberculosis is thus abolished and the opposite kidney is relieved of a source of irritation which later may produce grave symptoms during the course of pregnancy and puerperium. Of importance also is the probability that the intensity of the vesicle symptoms characteristic of tuberculosis is at times capable of inducing premature uterine contractions. These facts should be given more consideration than the argument that all of the work is thrown on the remaining kidney if one is removed.

From the above series of cases the conclusion may be drawn that pregnant women stand nephrectomy well and that this operation for renal tuberculosis is no more serious for mother and child than nephrectomy because of other pathologic conditions of the kidney during pregnancy. Following the removal of a tuberculous kidney, tuberculin should be administered, the urine examined at frequent intervals for a considerable period of time, and the patient kept under observation. Pregnancy is permissible if the remaining organ is free from tuberculosis and functioning normally after a period of two or three years. Tuberculosis of the kidney was found but once in a series of 5435 cases admitted to the obstetrical department of Stanford University Medical School.

There seems to be a general impression that the kidneys are more capable of resisting tuberculous infection during pregnancy. I doubt if this is the correct explanation of the infrequency with which renal tuberculosis is diagnosed during this period, but believe that many cases are overlooked because of the customary frequency with which urinary disturbances occur during gestation, and the failure to make a proper urological examination.

Doctors Farman and Gummess are to be congratulated on the excellent result obtained in their case.

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James R. Dillon, M. D. (490 Post Street, San Francisco).—Doctors Farman and Gummess have covered their subject rather completely and have emphasized in their conclusions the particular points for consideration. Due to lack of experience and the small number of cases recorded of kidney lesions occurring in complicated and uncommon situations, we are likely to temporize and wait until a last resort procedure faces us before attempting our surgery. By that time the patient is in an extremely septic and toxic or uremic state and would probably die, even if not accompanied by such complication as pregnancy, tumors of other organs or solitary kidney, kidney infection, etc.

Obstetricians fear albuminuria, hypertension and eclampsia, and are unwilling to risk anything that will increase the burden of pregnancy on the kidneys, especially to throw a double load on one kidney. Where one kidney is damaged we cannot expect the other good one to carry the entire load of pregnancy, plus the septic and toxic effect of the complication. Accordingly a therapeutic abortion is generally performed before the kidney surgery is attempted. I agree that the life and future health of the mother is the first consideration, but in view of the increasing number of reports on successful surgical treatment of kidneys during pregnancy, I feel we are justified in attacking the damaged kidney primarily in the majority of such complications.

In 1927 Mrs. R. was referred to me by Dr. E. V. Falk of Modesto. She was five and one-half months pregnant and complained of pain in the left kidney region, and hematuria. X-ray showed an enlarged left kidney with a small stone one centimeter in diameter in an upper calyx, and the pyelograms showed the "filling in" defect of the pelvis, suggestive of malignancy. Consultation with Dr. A. B. Spalding advised a therapeutic abortion by cesarean section and sterilization by ligation of the tubes before operation on the kidney. The patient decided the issue herself by refusing the abortion, so a nephrectomy was done and an early malignant kidney removed. She made an uneventful recovery and went along nicely until near term, when a slight hypertension developed which gradually increased, however, without symptoms. Measurements disclosed an unusually large fetus and a cesarean was done, also ligation of the tubes, and a ten and one-half pound lively baby was delivered which had the developmental features of a ten-month pregnancy. Both mother and child are living, four years after, the mother showing no signs of metastasis, nephritis, or hypertension.

⁂

Lyle G. McNeile, M. D. (Pacific Mutual Building, Los Angeles).—This paper, together with the case report included by Doctors Farman and Gummess, and by Doctor Dillon in his discussion, again illustrates the necessity of using common sense in the selection of procedures for the relief of conditions arising during pregnancy. Pregnancy *per se* is seldom a contraindication for any procedure which would under other conditions be indicated. While it is true that elective surgical procedures should seldom be performed during pregnancy on account of the danger of abortion or premature labor, it is equally true that procrastination in the performance of a well-indicated surgical procedure may, and often does, lead to more disastrous results than would have been the case had the procedure been carried out. I believe that indicated surgical procedure can safely be performed during pregnancy, and that the danger of interruption of the pregnancy has been greatly exaggerated. The cases quoted well illustrate this point. The end results justify the procedure.

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Doctor Farman (Closing). — Doctor Stevens summarizes a review of the literature and his own experience concerning the treatment of tuberculosis of the kidney occurring during pregnancy. He points out clearly the advantage to both mother and child of carrying out surgical removal (nephrectomy) of a unilateral renal tuberculosis and he aptly remarks that such type of infection is, moreover, often overlooked due to carelessness of physicians to have timely urological examination in pregnant women.

Doctor Dillon's report of successful removal of a malignant kidney in a woman pregnant five and one-half months again emphasizes the need of urological investigation at the time a hematuria is first found, regardless of the gravid state, with the possible exception of the few latter weeks.

Theoretically, no doubt, most obstetricians agree as to the general principles governing surgical procedures during pregnancy, but in actual practice I believe some physicians are inclined to delay or postpone necessary surgical and urological procedures in pregnant women to the detriment of both mother and child. In the authors' reported case the obstetrical consultant, Dr. Lyle McNeile, advised immediate surgical interference of the affected kidney (septic pyelonephritis with abscess formation) as the only measure offering any degree of safety for the preservation of the life of both mother and child.

SEMILUNAR CARTILAGES—THEIR REMOVAL FROM THE KNEE JOINT*

By George J. McChesney, M. D.
San Francisco

Discussion *by James T. Watkins, M. D., San Francisco; Lionel D. Prince, M. D., San Francisco.*

During the last two or three years a number of patients have been referred to me by various insurance companies, as well as the Industrial Accident Commission, for opinion after removal of the internal semilunar cartilage. No cases of removal of external cartilages or of free osteocartilaginous bodies, osteochondritis, fracture or other injuries are included in this study. This report is on twenty-four patients as well as three other cases taken from the files of an insurance company, but not personally seen by me.

All cases here reported present a remarkably similar picture of partial disability after months of physio-therapy, which treatment followed competent surgical procedures as regards infection, and other complications. Usually such treatment was preceded by months of physio-therapy before surgery was resorted to.

In the cases here reported, the average age was forty-one years which fact the writer considers significant.

The average time between dates of injury and operation was five months. From operation to my examination was seven months, at which time quite a typical picture was present.

A TYPICAL CASE

In describing a typical condition as then presented, one would describe practically a chronic atrophic arthritis of the joint. Crepitations, fine or coarse, were universally present. Almost as constant was tenderness at site of the cartilage or in the infrapatellar fat pad, with or without swelling of the latter. Very seldom was there presence of free fluid in the joint or any swelling of the tissues about the joint as a whole. Locking symptoms were present in nine or thirty-seven per cent. This might indicate an incomplete removal of the cartilage. Complete extension was practically always obtained, indicating that the major portion of the cartilage had been removed. Flexion was often almost normal and always more than a right angle. Usually the quadriceps atrophy was marked and one got sometimes a history of sudden giving way with weight bearing, due to this thigh atrophy. With it, however, there was no laxity of consequence in lateral or crucial ligaments. The limit of comfortable walking averaged five to ten blocks and there was always trouble on stairs. X-rays were positive for arthritis in fifty per cent of the patients.

With this quite typical picture there was, of course, at least a partial disability claimed and usually a total one for all but the lightest forms of work. Most of these patients were seen but once. A few were kept under supervision while under physiotherapy, and on reëxamination, very little change was noted. My own patient, under observation for two years after operation, got back to regular work as a lineman climbing poles in nine months, but complained of soreness and had persistent quadriceps atrophy when last seen.

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* Read before the Industrial Medicine and Surgery Section of the California Medical Association at the sixtieth annual session, San Francisco, April 27-30, 1931.

RECORDS OF CALIFORNIA INDUSTRIAL ACCIDENT COMMISSION

In endeavoring to find out what finally became of cartilage patients, I consulted the Industrial Accident Commission records. The files of the Commission were very difficult of access in spite of cordial coöperation on the part of the medical and clerical staffs. There are no cross files according to injury alone, and in looking up knee cases one loses a certain number which have more than one injury and are filed under some other injury. However, one of the clerks, after eighteen hours' work, was able to find that for the year 1930, approximately ninety-four knee injuries came before the Rating Department. No data was obtainable on cases that originated in the Los Angeles office. Of these ninety-four cases, fifteen were patients in whom the semilunar cartilage was removed. The average age of these fifteen patients was thirty-six years. As regards rating, six out of fifteen were rated between one and ten per cent, five between ten and twenty per cent, three between twenty and thirty per cent, and one was rated at thirty-five per cent. Thus over half were rated over ten per cent, or a fairly high rating. This is not a very good showing.

REPORTS IN THE LITERATURE

Turning to the literature, we find that British journals have printed the most voluminous statistics due, as is well known, to the greater frequency of knee injuries from the greater popularity of soccer football, and the large number of miners. D'Arcy Power in the *British Medical Journal* in January 1911, reported on eighty-nine cases, some length of time postoperatively, exact time not stated. Of these, seventy-three of the injured persons stated they had no return of symptoms for which operation had been performed. Sixteen had suffered a recurrence, so evidently all pathology was not removed. Fifty reported that the injured knee was as strong as the other. Thirty-nine, almost half, stated that the injured knee was weaker, and would have received a rating from our Commission. Seventy-seven reported motion as perfect. Twelve stated motion imperfect. Forty-three of the patients stated that the injured knee was painless; thirty-five said it was painful; eleven said it pained in change of weather only. Here again almost half of such patients would have been rated by us. These statistics are twenty years old but we do not seem to be able to improve on them.

Mitchin, in the *British Journal of Surgery*, October, 1922, reviewed one hundred and twenty-five cases. Seventy-four were examined or reported on by letter. Fifty-seven were good; fourteen were fair; three were unsatisfactory. These are distinctly better figures, and may be explained by Mitchin's observation that patients up to three years after operation almost universally complained of pain and effusion, whereas patients operated more than three years previously had very little complaint. To quote: "Such unwelcome occurrences became less frequent towards the end of the second year after operation and then ceased, so that from the third year onward the patient could indulge in all forms of exercise without any untoward result." This might, if true, be an argument for deferring rating until three years after operation.

Love, in the *British Medical Journal*, August, 1923, finds in fifty patients that "results before repeated attacks have caused stretching of the supporting structures or early osteoarthritis are much superior to those obtained in later cases." In our series, however, treatment was instituted usually after the first attack and operation done after an average of five months, yet arthritis developed. Love also tabulated in relation to age and found that under thirty years of age, of thirty cases, twenty-six were found good, four were fair, one was poor. Those over thirty years were nineteen in number. Of these nine were good, seven were fair, three were poor, a significant difference.

Osgood and Surls report in *Journal of Bone and Joint Surgery*, October, 1923, on seventy-seven cases. Sixty-four were very satisfactory, three were good, one was fair, nine were poor.

Of course it is evident that comparative statistics cannot be made of my twenty-four poor results, as there is no means of knowing how many other cases were operated during the same time with good results and hence not coming before the Commission for rating. Inquiries addressed to several of the leading insurance companies were fruitless, as no records were kept along these lines.

We all can, of course, recall our cases in private practice with perfect results, and doubtless with as high a percentage of satisfactory results as in the British authorities quoted, but I feel that industrial results are not as good even when done by the same surgeon. Certainly the fifteen cases dug out of the Industrial Accident Commission records were not brilliant, allowing for the fact that in the same time a certain number must have recovered without going before the board. My suspicion is that there were very few of this class, however.

EXPLANATION OF POOR RESULTS

The reason for the poor results in industrial practice are various. Among them are:

(1) Imperfect coöperation on part of the patient, due to the feeling that it was up to the insurance company to give him a perfect joint, and hence exertion on his part was not necessary.

(2) Feeling that a high rating would bring in more money and hence another motive for imperfect coöperation.

(3) Necessity for return to laborious occupations and no opportunity to graduate the severity of this work to a crippled limb.

(4) A climatic tendency to arthritis in the San Francisco Bay district.

(5) The age of the patient. In our series the average was forty-one years and this I feel is the most important factor.

(6) Perhaps too early estimation of final results instead of waiting for the three-year limit as suggested by a British author.

Other reasons may suggest themselves to you.

At any rate I can only urge as a lesson to be learned from this study that we must use the utmost diligence, care and study before advising removal of semilunar cartilages. We must keep in mind the ever present danger of a chronic arthritis supervening in persons over thirty, the peculiar mental reactions of the industrial patient, and his usually adverse occupation for a weak knee.

We have seen cases of doubtful or mild semilunar injury recover without operation when manipulated, remanipulated and treated conservatively for a few months. They may recover with a slight tendency to arthritis, but better this result than a marked arthritis, weakness of the limb, et cetera, after a cartilage operation, no matter how well done.

In these days of the x-ray and other instruments of precision, the old diagnostic sense and reasoning to arrive at conclusions is becoming atrophied, and here especially do we need it, as the x-ray is of little help, with none at all from other diagnostic short cuts.

In discussing the operative technique, I have little to suggest to a body of competent surgeons. In none of the cases was there a failure or question of aseptic technique. The operation now is classical and of textbook finality. The authorities still differ as to the kind of incisions. I was surprised to find the majority advise the split patellar route, certainly the best in a doubtful case where ample inspection is needed, but also advisable as least liable to cut sensory nerves. Naughton Dunn in 1924 brought out the danger of a painful neuroma occurring in the patellar branch of the internal saphenous nerve, in the classical Jones J shaped incision.

All authorities agree as to the inadvisability of postoperative splinting, but rather early mobilization, and so on.

In conclusion I can only reiterate and plead for the utmost care, caution and conservatism to be exercised prior to operation, the study of all symptoms, exact mode of injury, et cetera, in an effort to get a complete mental picture of the exact pathologic changes present. As an aid to this I would suggest reference to the "Suggested Outline for Records of Internal Derangements of the Knee" as given at the end of Osgood and Surls' excellent article previously referred to.

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DISCUSSION

James T. Watkins, M. D. (909 Hyde Street, San Francisco).—Doctor McChesney's paper furnishes food for thought. A strip of fibro-cartilage—usually only its anterior end—comes loose at the inner side of the knee joint. It is removed through an incision so placed that no important structure can possibly be damaged. The whole thing ought to be, and in private practice usually is, entirely well in three to six weeks; but in the industrially injured, after seven months, out of fifteen cases, five (that is, one-third) had ten per cent to twenty per cent disability, and four (almost another one-third) twenty to thirty per cent disability. Certainly, something is seriously wrong somewhere.

The advanced age of the group investigated, an average of forty-one years, may have some significance; but I cannot view it as seriously as Doctor McChesney does. Twenty-one years ago I injured my knee. Doctor McChesney put a cast on it, and I wore that and a brace for six months. Nineteen years ago an expert Roentgenologist reported that this right knee presented a marked atrophic arthritis, and his findings have been sustained repeatedly by other colleagues in his specialty since then. In the meantime the knee has gone fishing, hunting, playing plenty of golf, tennis and the like without inconvenience. Now, in all reason, could I for twenty years have pounded around on a knee with real pathologic changes in it?

Indeed, I do not take overly much stock in this—shall I say fashionable—diagnosis of atrophic arthritis. They recall a medical proverb of the Germans, "Und was er nicht erklaren kann, sieht er als rheumatismus an." And what he can't explain, he assumes to be rheumatism. However, we haven't time to go into that now.

The first thing that impresses me about these industrial cases is the appalling length of time which was allowed to elapse between the time of injury and the date of operation—an average of five months! Assuming always that they were proper cases for operation—that means that repeated efforts at manipulation had failed to replace the nuniscus—an average of five weeks ought to have been more than enough. Exceptions would, of course, be recurrent cases; but with proper care, there should be very few recurrent cases. The ill-effects of this delay are twofold: (1) the quadriceps atrophy which our war experience taught us to expect with every protracted knee injury is given time to become well-established, and once established it is most difficult to overcome; and (2) the patients acquire what the French call the "idee fixe" as to the seriousness of their disability, and also have an opportunity through mischievous association, to get imbued with the idea of its financial value. In other words, they acquire an unhealthy mental state.

I am not placing the blame for this delay necessarily upon the attending surgeon. It is equally, if not more, probable that he has to lose time in proving to some lay insurance man that the patient won't get well without an operation before he is permitted to perform it. So much for the mischief that is done by either incompetence—and sometimes we industrial surgeons are not so seldom chosen because of our golf scores—or by lay interference.

Now, assuming the operation to be properly done, and the wound healed, function should at once be instituted under protection and physical therapy, designed to build up the quadriceps, begun in the shape of the Bristow Coil at first, then exercises, and simultaneously, at least fifteen minutes a day, of the most vigorous massage. Baking and the gentle "laying on of hands" usually employed is futile.

Now, when we come to the permanent partial disability ratings, we strike another snag. I once said that a man with a painful, ununited fracture of the upper end of the femur upon which he could not walk two blocks had a ninety per cent disability. Actually, since his knee and foot were all right, though he couldn't use them because of the intervening break, according to the method of estimating such things then in vogue, the man had only a twenty-five per cent disability. My feeling is, however, that if the average man's objective physical findings were made the basis of the award, and his lack of the will to do, evaluated at its true worth in the open market, permanent, partial disability ratings would be materially lower than this paper would show them to be.

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Lionel D. Prince, M. D. (490 Post Street, San Francisco). — Doctor McChesney's paper presents many facts of great interest particularly to those whose practice brings them in frequent contact with injuries to the semilunar cartilages of the knee. In reviewing the cases following the removal of cartilages, a cross section of end results, irrespective of whether the cases are industrial or private, must be given consideration. Of equal importance is the consideration of the history of the case and the symptoms prior to and after operative interference. Doctor McChesney has particularly emphasized this point and I believe that many of the so-called poor results following removal of the joint cartilage are due to the fact that the original symptoms were not wholly the result of cartilage injury. In reviewing many of these postoperative cases in which the results have not been satisfactory there has been considerable doubt in my mind as to whether cartilage injury existed. Unfortunately we not infrequently find knees operated upon for removal of cartilages by surgeons not particularly qualified to do this type of work. Notwithstanding the fact that the records show a damaged cartilage was removed, I am inclined to rely more on the history of injury and description of symptoms than on the operative findings. I recall one case in particular where the patient was operated upon for injury to the internal semilunar cartilage. The case was seen by me after a period of many months owing to the fact that he still complained of symptoms typical of cartilage disturbance. I reoperated and a damaged but otherwise intact semilunar cartilage was still present. What the original operator had removed I was unable to determine.

My experience with surgical removal of the internal semilunar cartilage has probably been more encouraging than that of Doctor McChesney. It is obviously misleading, however, to attempt to judge end results from a collection of cases that have been brought to the attention of the Industrial Accident Commission. These cases are unquestionably the ones in which unsatisfactory results have been obtained. The cases operated upon and in which a satisfactory result has been obtained do not appear in the records of the Commission. In the majority of patients whom I have operated, complete recovery in six to eight weeks has been obtained. These have all been patients in whom there has been little doubt as to the existing pathology, the history and symptoms being typical. In a very few cases the symptoms given by the patient contained factors of disability that could not be accounted for on the basis of cartilage disturbance only. In these patients convalescence was either retarded or some degree of permanent disability resulted. It is very probable that at the time of the injury to the knee more disturbance than just injury to the semilunar cartilage occurred, with the subsequent development of some traumatic arthritis.

In recent cases of disturbance to the cartilage, with locking, every attempt should be made to reduce the cartilage and treat it conservatively before considering operative intervention. If following conservative treatment there is a recurrence of locking, operative removal of the cartilage is definitely indicated and should be done without further delay. A delay in removal of the damaged cartilage may result in a complicating arthritis with permanent disability in the knee joint irrespective whether or not the cartilage is removed.

Regarding operative treatment, the Jones technique is unquestionably the method of choice. Extensive exploratory incisions or the split patella route are not indicated in a simple cartilage operation and their use frequently results in protracted or permanent disabilities.

TWINS—A STUDY OF CERTAIN MENTAL DISORDERS*

PRELIMINARY REPORT

By Aaron J. Rosanoff, M. D.
Los Angeles

Discussion *by Professor Lewis M. Terman, Stanford University; Emil Bogen, M. D., Olive View; Julian M. Wolfsohn, M. D., San Francisco.*

PHYSICIANS have many times observed and reported a familial tendency toward certain nervous and mental disorders. Hence has arisen a theory to the effect that in the etiology of such disorders, hereditary or inborn factors play a more or less important part.

In special researches which have been undertaken in connection with this problem, three different methods have been employed: (1) the statistical method, as, for example, in the studies published by the Francis Galton Laboratory of Eugenics of the University of London; (2) the Mendelian method, as, for example, in the studies published by the Carnegie Institution and the Eugenics Record Office in this country; (3) the method based on study of twins.

The first two methods have furnished more or less significant confirmation of the theory of a hereditary or inborn factor. The last method has not as yet been employed in a thorough-going way, although it has many times been pointed out that cases of mental disorders in twins constitute the most promising clinical material for the purpose in hand.

Extreme views have been expressed on the question of the relative importance of heredity and environment not only in the etiology of mental disorders, but also in connection with other matters. Available data seem to indicate that a generalization on this point is precluded by the nature of things. There seems to be much variation as between the different clinical groups and even as between cases in any one group. There can be little doubt, for example, that in mental deficiency the inborn factors are by far the more important; and it seems equally certain that, in many cases, a psychoneurotic predisposition is so weak that it remains latent for the most part, and is brought to light only under extraordinary environmental conditions.

Taking as another example the clinical group of manic-depressive psychoses, there is strong clinical evidence that in some cases the inborn factors have, in themselves, proved sufficient to determine a mental breakdown, whereas in other cases such breakdown has occurred only under conditions of unusual physical and psychic strains.

For practical psychiatric purposes, it is important to measure for clinical groups and for individual cases the relative parts played in the etiology by inborn and environmental factors. The importance of this matter, however, is not limited to the field of psychiatry. Vast issues of policy in education, mental hygiene, and crime prevention must await final decision pending the settlement of this controversial matter.

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* Read before the Neuropsychiatry Section of the California Medical Association at the sixtieth annual session, San Francisco, April 27-30, 1931.

REFERENCES FROM MEDICAL LITERATURE

In the medical literature one may find a considerable number of reports of cases of mental disorders in twins. The first such report happens to have been made by an American psychiatrist of pioneer days, Benjamin Rush. His observation, however, like a good many others that have been made since his time, was reported merely as a curiosity in medicine, apparently without a full appreciation of its theoretical significance.

It seems to have been first pointed out by Francis Galton that twins are classifiable into two groups—monozygotic and dizygotic; that the hereditary factors are exactly the same in monozygotic twins but not in dizygotic twins; and that, therefore, comparison of the two kinds of twins should be helpful in determining the relative importance of hereditary and environmental factors in the etiology of various diseases as well as in connection with other important matters.

There has been, in recent years, a considerable output of studies made by psychologists pertaining to the question of inborn and acquired factors in the determination of general intelligence. These studies are, as a rule, without any special reference to mental deficiency or other pathological conditions, but they must be considered relevant in this connection; for no one today can question that most cases of mental deficiency represent merely biological variants to be found at the lower end of the curve of distribution, and not, in the strictest sense, disease conditions sharply distinguishable from cases of so-called normal intelligence.

An excellent summary of studies of this type is presented in the following table, which I have copied from Sandiford's "Educational Psychology."

Coefficients of Correlation for Intelligence Among Groups Exhibiting Different Degrees of Genetic Relationship

Group	r
Physically identical twins	0.90
Like-sex twins	0.82
Fraternal twins	0.70
Unlike-sex twins	0.59
Siblings	0.50
Parent-child	0.30
Cousins	0.27
Grandparent-grandchild	0.15
Unrelated children	0.00
Orphans	0.00

Among the conclusions drawn by Sandiford is the following: "The amount of resemblance in general intelligence varies from $r = 0$ for unrelated individuals to a maximum of $r = 0.90$ for physically identical twins. Intermediate values are found in accordance with the genetic relationship of the individuals. Therefore, there is an increasing degree of resemblance in general intelligence among human beings with an increasing degree of blood relationship among them. *Ergo*, general intelligence is an inherited trait."

It is not my intention to offer even a partial review of literature in connection with this preliminary report. I wish, however, to call attention to a rather startling study published less than a year ago in Germany by Johannes Lange, under the title "Verbrechen als Schicksal." This study was immediately translated into the English language, and is now available to the English-reading public under the slightly altered but less significant title, "Crime and Destiny."

Lange furnishes an account of thirty pairs of twins of which one or both have exhibited criminal tendencies. Of this material he regarded thirteen pairs of twins as monozygotic and seventeen pairs dizygotic.

In ten of the thirteen pairs of monozygotic twins both were criminal, and quite consistently in a very similar way; and in the remaining three only one was criminal.

In the second group of cases criminal behavior was observed in both twins of only two pairs; in fifteen cases only one of the twins was criminal.

Turning again to the medical case reports of mental disorders in twins, we find not only that the total amount of material reported is surprisingly scant, but also that interest has seemed to be directed almost invariably to cases in which both twins were affected; and that often without special reference to whether the twins were monozygotic or dizygotic. In other words, this kind of material has never been collected in sufficient amount and in such a way as to afford a real opportunity for comparing the two types of twins.

The present investigation has been undertaken for the purpose of collecting a large enough number of cases of mental disorders in twins to be suitable for statistical treatment, at least in connection with the commoner groups of constitutional mental disorders. We are interested in cases in which only one of the twins is affected and not only in cases in which both are affected. We are interested in monozygotic as well as in dizygotic twins, including opposite-sex twins.

SCARCITY OF MATERIAL FOR STUDY

Our problem presents certain difficulties, the principal one being due to the fact that there is no large collection of twins affected with mental disorders to be found in any one limited area. It is our purpose to gather material from every part of the United States and Canada.

Obstetricians report that approximately one birth in eighty is a multiple birth. There is, however, a high mortality among twins, and it is quite doubtful if we can expect to find, say, in the state hospitals more than one patient in two hundred and fifty who has a twin brother or sister living somewhere and accessible to investigation.

We are interested in cases of constitutional mental disorders, but also in alcoholism, drug addiction, criminal careers, juvenile delinquency, and other serious social maladjustments which may occur on the basis of underlying psychiatric conditions.

Accordingly, we look for our material first of all in state hospitals, institutions for the feebleminded, and penal institutions; and we expect to find some of our material in classes for subnormal children in public schools, among behavior cases in the schools, and in child-guidance clinics.

We have estimated roughly that twenty-five hundred pairs of twins should be available for study in the United States and Canada in connection with such an investigation as ours. This, however, presupposes an amount of coöperation from officials of institutions which is not always to be had. However, we have already had nearly a year's experience in this work, and we have no doubt that we shall be able to collect a minimum of one thousand cases (two thousand individuals) upon which to base our study.

REPORT ON ONE HUNDRED TWENTY-SEVEN SETS OF TWINS AND TRIPLETS

At the present time we can report on 127 cases (255 individuals, there being one set of triplets represented in this material). According to clinical groups, these cases are classifiable as follows:

	Cases
Mental deficiency	49
Mongolian imbecility	2
Epilepsy	6
Schizophrenia	23
Manic-depressive psychoses	11
Drug addiction	1
Delinquency and crime	22
Miscellaneous	13

Among the miscellaneous cases have been included behavior problems in children with no established medical diagnosis, a case of cerebral arteriosclerosis, one of senile dementia, one of general paralysis, etc.

In forty-eight cases the twins have been judged to be monozygotic; in thirty-six cases, dizygotic but of the same sex; and in forty-three cases they are opposite-sex twins.

In sixty-eight cases both twins have been affected; in the remaining fifty-nine, only one. In this respect, however, the three groups of twins present significant contrasts, as follows:

Classification	No. of Cases
Monozygotic, both affected	41
Monozygotic, one affected	7
Same sex, dizygotic, both affected	18
Same sex, dizygotic, one affected	18
Opposite sex, both affected	9
Opposite sex, one affected	34

Interesting comparisons may be made as of different clinical groups, for example, mental deficiency and psychotic disease (including schizophrenia and manic-depressive psychoses):

	Monozygotic		Dizygotic			
			Same Sex		Opposite Sex	
	Both Affected	One Affected	Both Affected	One Affected	Both Affected	One Affected
Mental deficiency	19	0	6	7	6	11
Psychotic disease	9	4	3	5	1	12

In our six cases of epilepsy both are affected in the one pair of monozygotic twins, and only one is affected in each of the five pairs of dizygotic twins (same and opposite sexes).

In our two cases of Mongolian imbecility both are affected in the one pair of monozygotic twins, and only one is affected in the other pair which are dizygotic.

Our one case of drug addiction in twins happens to have occurred in monozygotic twins, and both are affected.

An interesting contrast seems to exist between cases of criminalism in adults and delinquency in children, especially if we include in the latter behavior difficulties which fall short of actual delinquency. In the children both twins are usually affected, whether they are monozygotic or dizygotic. To a somewhat lesser extent this is true of opposite-sex twins. In adults both twins are much more apt to be found affected in monozygotic than in dizygotic pairs.

Considerable difficulty is experienced at times in determining whether a given pair of twins of the same sex are to be considered monozygotic or dizygotic. In fact, in a good many cases this distinction cannot be made with complete certainty. It seems inevitable that errors will occur in both directions. However, we believe that when we have gathered an amount of material large enough for statistical treatment the percentage of error will not prove so great as to obscure or invalidate the conclusions.

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DISCUSSION

Professor Lewis M. Terman (Stanford University). I regard Doctor Rosanoff's paper as of very great importance and hope he finds it possible to continue the study until he has covered all of the institutions of the country that can be persuaded to coöperate. In recent years many studies have been made of the resemblance between twins—both identical and fraternal—in intelligence tests scores but little reliable material has been collected on twin resemblance in personality traits and mental abnormalities. A recent study of Lange, translated from the German by Haldane, was the first published research of the general type which Doctor Rosanoff has undertaken, and its results are so challenging that more exhaustive investigation of the problem is imperative.

Every research has its pitfalls, and this is no exception to the rule. In this case probably the greatest danger is that of biased sampling, for the reason that it is easier to find and to include twin pairs when both are institutional inmates than when only one is. Doctor Rosanoff is fully alert to this danger and, in my opinion, will be able to escape it fairly effectively.

During the past year Dr. Harold Carter, Social Science Research Fellow at Stanford, has undertaken a rather minute psychological comparison of identical and fraternal twins in personality traits as measured by several standardized tests of interest attitudes, introversion-extraversion, psychoneurotic tendency, ascendency-submission, mental masculinity-feminity, etc. His results to date indicate pretty definitely that the excess resemblance of identical as compared with fraternal twins is about as great in such traits as in intelligence. His data are especially interesting in the case of identical twins of middle age or older who have had unequal education or dissimilar environment. It is, of course, to be regretted that it will not be possible for Doctor Rosanoff to secure detailed psychometric data for his institutional cases. If I were the director of one of the large foundations I should want to subsidize Doctor Rosanoff to give all his time for several years to securing such psychometric data for his twin subjects in institutions throughout the country.

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Emil Bogen, M. D. (Olive View).—Undoubtedly there are hereditary as well as environmental factors in the production not only of mental and physical diseases, but also of all of the wide series of individual variations found in normal health. In the evaluation of the relative importance of these factors the study of the relative incidence of various conditions in the different types of twins offers a method of tremendous value. Great credit is due to Doctor Rosanoff for the ambitious program which he has outlined, and for being able to present already, with his own limited resources, the greatest amount of data on this aspect of the constitutional psychoses yet available.

No one knows better than the investigator himself, however, the difficulties in the interpretation of this material. The very establishment of the origin of a pair of twins from a single fertilized ovum, although made highly probable by the presence of a very high degree of physical similarity, may still be open to question. On the other hand, even uniovular twins, though similar in many respects, may differ markedly in others, just as the two sides of the body, in the same individual, are not identical. The existence of mirror imagery between twins, for instance, although of little physical importance, may lead to significant differences in the psychic realm, concomitant, for example, with left-handedness.

The environmental differences surrounding siblings of different age or sex is, of course, apparent. Whether there are any constant factors tending to make the environment of uniovular twins more constant than that of binovular twins of the same sex merits further investigation. The very fact of physical resemblance is apt to lead to similarity in dress, physical care, attitude of others to them, education, etc. Moreover, the tendency in uniovular twins for a strong affection to exist between them, or a devoted leader and follower relationship, leads to similarities of environment and experiences much more marked than holds with binovular twins, where differences in taste and aptitudes, both physical and mental, leads early to differentiation in environment, and where fraternal antipathies much more frequently manifest themselves.

But even more dangerous than those consequent on the difficulty of accurate determination of uniovular and binovular twins, on the existence of marked differences of a hereditary nature even between uniovular twins, and on the greater frequency of similarity of environment in the case of uniovular twins, are the errors that result from the method of obtaining information about them. Unfortunately twinning appears to be unknown among laboratory animals, and so we must study it as it occurs among the armadillos and in man. If the type of twinning present could be determined at all, twin births (which in itself present grave problems in anatomy and embryology) and every pair of twins were followed until death, in a large population, the data obtained might escape the dangers of unbalanced sampling. If the fact of twin birth could be accurately established even for the inmates of the institutions included in Doctor Rosanoff's investigation, much of the error could be avoided.

The extent to which uniovular twins who show the same defect may be more or less readily accessible in a study of this kind than the uniovular twins without such defect may only be conjectured, while binovular twins, even though both suffering from the same condition, may have their relationship overlooked entirely. Too much weight should not be laid on inferences derived from such small figures as have been hitherto available. It is to be hoped that this study will be continued and that sufficient material will be accumulated to justify more intensive analysis of the relationships disclosed. Doctor Rosanoff is indeed to be congratulated upon the extent to which he has already progressed.

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Julian M. Wolfsohn, M. D. (490 Post Street, San Francisco).—This preliminary report, outlined by Doctor Rosanoff, has a far-reaching value. He has envisaged the result that could be obtained by the minute study of inherited characters through this unusual channel, namely, the study of monozygotic twins.

In a previous report I published six cases of identical nervous diseases in monozygotic twins. In one of these cases there was the development of idiopathic epilepsy in both twins at the age of seven, which has persisted, more or less to date, many years after.

Another set of twins were feeble-minded with the same mental retardation, together with spastic diplegia, and certain similar functional and physical anomalies.

It is a tendency among neuropsychiatrists to feel that certain mental disturbances, such as manic-depressive insanity, are biochemical or biophysical changes in cortical nerve cells. The nervous systems in these patients are affected by either heredity or predisposition. I believe it is the inborn factors in these cases that are the important predisposing causes. This is also true in mental deficiencies.

Doctor Rosanoff's idea of studying both types of twins, as did Lange in his paper on "Crime and Destiny," will give a very good index as to whether an individual's symptom complex is inherited or whether it is a disturbance of adventitious cause or extranatal.

One wonders whether inborn factors do not account for many behavioristic disturbances, mental symptoms, and nervous reactions seen in many patients, to a much larger degree than we are willing to admit.

How can one explain, except by an inborn factor, the case of identical twins exactly fourteen years of age, who became afflicted with manic-depressive psychoses of the same type and severity, who were placed in different mental hospitals about three miles apart and had no communication whatsoever for three years, committing suicide in the same way within a short time of each other?

From a physical standpoint one can understand this when one considers that in growth the chromosomes divide longitudinally and not vertically, so that one can conceive how all the inheritable factors are present in each and every cell. Therefore, when the cleavage occurs which results in two individuals instead of a single one, one would expect all the inherent characteristics present in one to be present in the other, even to the texture and convolutions and patterns of the brain. It is not far to stretch one's imagination if one considers the same association tracts would be present in both brains. Therefore the same innate tendencies to the same reaction type. But Doctor Rosanoff will be able to tell us more in the near future the results of his much larger series of cases.

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Doctor Rosanoff (Closing).—It is gratifying to note the interest in the subject of my paper elicited by my preliminary report.

I wish particularly to express my appreciation of the suggestive and encouraging comments offered by Doctors Terman, Bogen, and Wolfsohn in the course of the discussion.

Any interpretation of data contained in this preliminary report must, of course, be regarded as tentative.

As I write these closing remarks at this time, which is seven months after the state conference at which the above preliminary paper was read, I am able to report further progress in the gathering of material for my study. We have now in our files the records of 365 pairs of twins and two sets of triplets with mental disorders. In addition, material is being accumulated for purposes of control. My associate, Mr. Doncaster G. Humm of the University of Southern California, has recently completed the collection of a large amount of material for a control study of the siblings of patients with mental disorders.

The genetic history of intelligence, both average and superior, and the distribution of intelligence in the two sexes are matters which have a bearing on certain problems in the etiology of mental deficiency. For this reason, cases of various types of twins and of groups of siblings of average and superior intelligence are being collected for purposes of further control.

TUBERCULOSIS AMONG ORIENTAL CHILDREN IN SAN FRANCISCO*

By Lloyd B. Dickey, M. D.
San Francisco

Discussion *by Philip King Brown, M. D., San Francisco; Jacques P. Gray, M. D., San Francisco; Harold K. Faber, M. D., San Francisco.*

It is a generally accepted belief that the number of children infected with tuberculosis in any community will be proportional to the number of cases of active pulmonary tuberculosis among adults in the same vicinity. With exactly the same opportunities for infection, different groups of children might vary in the amount of active tuberculous disease present, depending upon the several factors of general hygiene in juvenile environment. The amount and quality of food, the availability of fresh air and sunshine, and the amount of space for a child in the home, are all influences which determine whether the original infection will become latent or progress to more active disease.

The incidence of tuberculous infection among San Francisco clinic children is among the lowest of those reported for American and European cities.[1] Because there is in San Francisco a section of the city which has approximately four and one-half times greater mortality from tuberculosis than the rest of the city at large [2] and where conditions of overcrowding might predispose the child population to tuberculous infection, study of the incidence of tuberculosis among the children of this part of the community should be of interest. A preliminary report in slightly less than one-half the number of cases in the present series [3] has already been submitted on the incidence of infection among Oriental children.

STUDY OF TUBERCULOSIS AMONG SAN FRANCISCO ORIENTAL CHILDREN

Materials and Methods.—The cases reported are the children of Oriental parentage attending the children's clinic of the Stanford University Medical School, all of whom were tested regardless of complaint. The intracutaneous method was used, with a dosage of one-tenth cubic centimeter of a 1/1000 dilution of Koch's old tuberculin (one-tenth milligram), and an erythema of five millimeters diameter at forty-eight hours was taken as the minimum reaction for a positive value. This was a part of the study undertaken for the San Francisco Tuberculosis Association during a three-year period from August 1925 to August 1928.

	Chinese			Japanese			Total Orientals		
Age	No. done	No. pos.	% pos.	No. done	No. pos.	% pos.	No. done	No. pos.	% pos.
Under 2	15	0	0.0	17	3	17.6	32	3	9.4
2 to 4	20	5	25.0	20	4	20.0	40	9	22.5
4 to 8	39	13	33.3	52	19	36.5	91	32	35.2
8 to 12	29	9	31.0	32	15	46.9	61	24	39.3
12 to 14	16	9	56.3	10	6	60.0	26	15	57.7
Totals	119	36	30.3	131	47	35.9	250	83	33.2

TABLE 1. Incidence of tuberculous infection according to race and age groups.

The incidence among the children of Oriental parentage, using the same age groups as in the preliminary study, is shown in Table 1. When this is charted graphically, it shows the Japanese children to have a higher incidence than the Chinese in all except the preschool group from two to four years, where it is slightly higher among the Chinese (Chart 1). When both Oriental races are compared with the child population at large in San Francisco, the former show a higher incidence in all except the youngest age group, where the percentage of those infected is about the same (Chart 2).

In thirty-three of the Chinese children and in thirty-nine of the Japanese, or in seventy-two of the total of eighty-three positive reactors to tuberculin among the Oriental children, it was possible to secure histories, physical examinations, and roentgenographs in sufficient degree to make presumptive or final diagnoses of the type of tuberculosis present in each child. Table 2 lists the types of disease found, with numbers of cases and percentages among positive reactors in Orientals, as compared with a much larger but similar series, among white children.

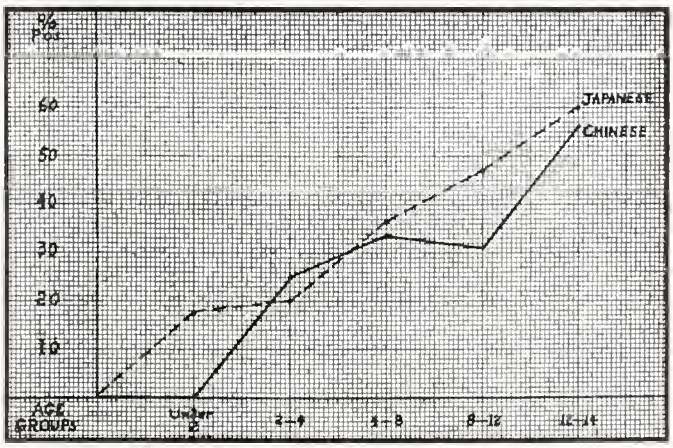

Chart 1.—The incidence for each oriental group, graphically charted.

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* From the department of pediatrics, Stanford University Medical School, San Francisco.

* Read before the Pediatrics Section of the California Medical Association at the sixtieth annual session, San Francisco, April 27-30, 1931.

	Chinese		Japanese		Total Orientals		Whites	
	Cases	%	Cases	%	Cases	%	Cases	%
Hilar, Latent	20	60.6	20	51.3	40	56.0	356	56.7
Hilar, Suspected	6	18.2	7	17.9	13	18.1	160	25.0
Hilar, Active	3	9.1	9	23.1	12	16.7	53	8.4
Pulmonary, Suspected	1	3.0	0	0.0	1	1.4	11	1.8
Pulmonary, Active	2	6.0	2	5.1	4	5.6	17	2.7
Cervical Nodes, Healed	0	0.0	1	2.6	1	1.4	4	0.6
Cervical Nodes, Active	3	9.1	2	5.1	5	6.9	10	1.6
Lymph Nodes, Generalized	1	3.0	0	0.0	1	1.4	0	0.0
Bone and Joint	6	18.2	5	12.8	11	15.3	12	1.9
Pleura	2	6.0	2	6.1	4	5.6	9	1.4
Kidney	0	0.0	2	5.1	2	2.8	2	0.3
Phlyctenules	6	18.2	5	12.8	11	15.3	18	2.9

TABLE 2. Types of Tuberculous Disease Found Among Different Races with number of cases and percentages among Positive Reactors to Tuberculin. (33 Chinese, 39 Japanese, 72 Orientals, 628 Whites)

The degree of reaction was measured in thirty-two of the Chinese children, and in thirty-eight of the Japanese. A comparison with the sensitivity in other races is shown in Chart 3, which is part of a report on the size of tuberculin reactions previously published.[4]

In only six of the thirty-three Chinese children, or in about 18.2 per cent, was a history of exposure in the home elicited, while in twenty-one of the thirty-nine Japanese, or in 53.8 per cent, there were contacts. Among 628 positive reactors to tuberculin among the white children, 133, or 21.2 per cent, gave histories of exposure in the home to open cases of tuberculosis.

COMMENT

Several possible explanations may be offered for the fact that the incidence of infection among the children of Oriental parentage in San Francisco is lower than would be expected because a relatively much larger number of cases of tuberculosis exists among the adults of these races. It may be explained on the basis of fairly early recognition of the contacts and early removal from the home, despite the fact that in this series it was difficult to elicit histories of contact among the children of the Chinese. Other factors which probably influence the degree of infection are the encouragement of more out-of-door life among the children so that contact in the home is less intimate than it previously may have been; the rigid supervision of the milk supply, and the generally improving hygienic conditions. The Orientals, too, are probably feeling the effect of the educational campaigns against tuberculosis, and are beginning to appreciate the dangers of infection from this disease.

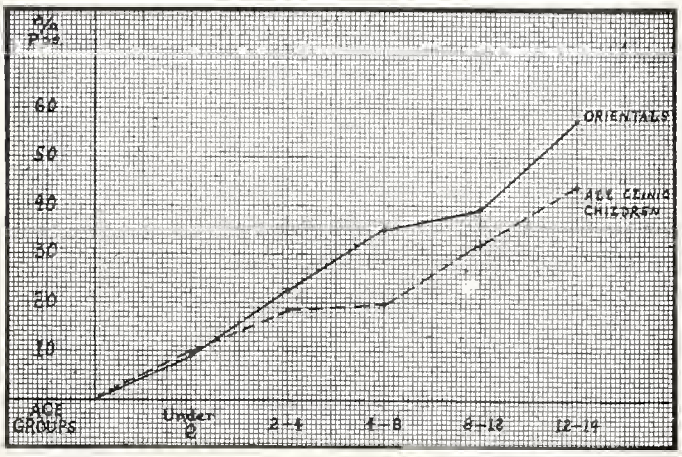

Chart 2.—The incidence of infection in Oriental children, as compared with the entire group tested.

Although the number of patients with active disease diagnosed among the positive reactors in the group is small, relatively it is larger in all instances than among a similar group of white children. The numbers are probably large enough to be significant in patients with active hilar tuberculosis, bone and joint tuberculosis, and in the patients who have phlyctenules. The early recognition of contacts, if it occurs, may be offered as an explanation of the disproportionately low incidence of infection among the children. The presence of relatively more active disease, however, suggests that many contacts are unrecognized, and that some of these children are being subjected to heavy infections, and to reinfections. Finally it is possible that a low racial resistance should be considered as a factor in the incidence of the active disease.

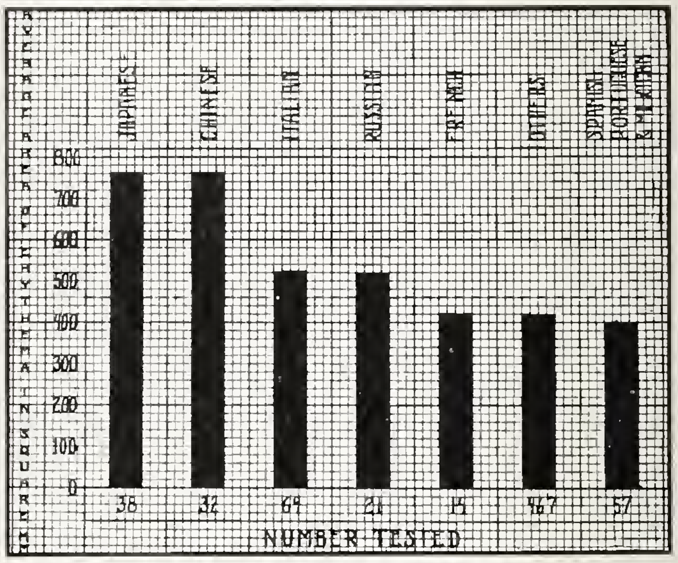

Chart 3.—The average size of the skin reactions in various racial groups, the dotted line being the average of all reactions measured.

The Chinese and Japanese children revealed about the same degree of sensitization, but were more sensitive to tuberculin than other groups studied. This again suggests continued reinfection. There was a relatively larger percentage of children among them having phlyctenules, and hypersensitivity to tuberculin usually is an accompaniment of this condition.

CONCLUSIONS

1. In a group of 250 children of Oriental parentage in San Francisco there was a total incidence of positive tuberculin reactions of about 33 per cent, and in the age group 12 to 14 of about 58 per cent.

2. This is higher than in similar groups taken from the child population at large.

3. The children of the Japanese are infected in larger proportion than the children of the Chinese in this series.

4. Cases of active tuberculosis, and of phlyctenules, occurred in a larger percentage of the Oriental children than among children of the white race.

5. Children of Oriental parentage reacted to intracutaneously administered tuberculin more strongly than white children.

6. Histories of contact in the home to open cases of tuberculosis were much more numerous among the Japanese than among either Chinese or white children.

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DISCUSSION

Philip King Brown, M. D. (909 Hyde Street, San Francisco).—It is generally understood that not only is tuberculosis the commonest cause of death among the Orientals, but that this condition is very greatly a result of their failure to change their hygienic habits by their contact with our civilization. No studies of tuberculosis in childhood are satisfactory unless checked up by tuberculin tests, temperature records, x-ray plates, and histories; the best of physical examination is not enough. Such studies as have been made by Doctor Dickey point the direction in which our public health should be guided in its educational and preventive work in order that we should not harbor in our midst a people whose unhygienic habits are rendering them a source of growing danger to the community because of increase in contact between the classes. It is to the interest of everyone that such studies be made profitable in helping us to eliminate so serious a menace to the lower class of our inhabitants.

In a study of the methods by which this disease is transmitted, presented eighteen years ago at the Association of American Physicians, I called attention to the fact that 93 per cent of hogs were found with tuberculous glands when examined by the United States Public Health inspectors in the large packing plants of the country. When it is known that the hog gains 90 per cent of its weight in the first six months of life it is evident that it shares its susceptibility to tuberculous infection as well as its habits with babies. They occupy the least cleanly part of the home, creep about where dirt and dust from the streets is tracked in, and very commonly suck their dirty thumbs for comfort. One cannot help feeling, in studying the lesions in childhood, that the causative germs are air-borne, gathered from the dirt and dust of the homes, borne from the taking in of contaminated material through the mouth and intestinal tract. In proportion to our standards of cleanliness we are eliminating this disease.

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Jacques P. Gray, M. D. (1085 Mission Street, San Francisco).—Doctor Dickey's paper adds a chapter to the story of the incidence of tuberculosis in the Oriental peoples.

In San Francisco the two Oriental races are quite distinctly segregated into their own districts, and, as Doctor Brown points out, they cling to their racial customs of housing, hygiene, and diet. Little doubt can be held but that these factors play a definite rôle in the incidence of tuberculous infection in these peoples.

It may be of interest to you to know that the mortality rates during the years considered in Doctor Dickey's work, 1925, 1926, 1927, and 1928, were: 112, 103, 98, and 103 per 100,000 population, for the entire city, all races and groups. The rates for the same years, based on the estimated population of Chinese, were 466, 420, 353, and 333; and for Japanese, a much smaller group, and therefore much less conclusive and less accurate, 166, 300, 250, and 83 (per 100,000, respectively).

Morbidity reports are not segregated by race or district, and data for the years considered in the report are not available. However, for the current fiscal year, the nine months' period may serve as an index of the proportion of Orientals (Chinese and Japanese) and total cases reported: Chinese, 4.2 per cent of all cases of pulmonary form, 16 per cent of all other forms, 4.8 per cent of all cases of all forms; Japanese, 1.2 per cent of all cases of pulmonary form, no cases of any other form, and 1.2 per cent of all cases of all forms; total cases of tuberculosis reported numbered 1032 of all forms, 976 pulmonary, 56 other forms. (Chinese comprise about 2.3 per cent of the total population, while the Japanese include but 1.0 per cent of the total.)

It seems reasonable to assume that the more marked reaction to tuberculin in the Oriental children may be explained on the basis of repeated infection, or at least more frequently repeated exposure to infection.

That the Chinese are reluctant to give information concerning their associates and environment is well known. It may be that this enters into the explanation of the difference between known contacts in the two Oriental groups.

On the bases of mortality statistics and of Doctor Dickey's work the conclusion must be drawn that there is a need for more intensive preventive work in the districts in which these people live.

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Harold K. Faber, M. D. (Stanford University Hospital, San Francisco).—Doctor Dickey's paper brings forcibly to our attention the fact that Oriental children are more frequently exposed to tuberculosis, that exposure occurs at an earlier average age, and that Oriental children are more frequently subject to active infection than are the children of other races in the same localities. Moreover these children furnish a disproportionately large number of cases of active tuberculosis of bone, a form of the disease which is becoming rare in the white population. In view of the rapid and striking diminution in tuberculosis in our general population, Doctor Dickey's observations focus our attention on one phase of the problem which has plainly not yet been efficiently attacked. Those familiar with its various aspects will agree that the difficulty lies chiefly in the adverse conditions under which so many Orientals in this country continue to live, due partly to economic causes and partly to the inertia of racial habit and lack of understanding of the principles of personal and domestic hygiene. Overcrowding due to economic causes may be difficult to control, but it is certainly possible to mitigate many of its ill effects by persistent, intelligently directed education in the values of cleanliness and fresh air and the dangers of contact with infection. Considerable progress has already been made, but much more remains to be accomplished. It is particularly desirable, and undoubtedly more effective, to have such an educational program carried out as far as possible by members of the racial groups themselves, properly assisted by boards of health and tuberculosis associations. The development of health clinics for Orientals should especially be encouraged.

THE TUBERCULIN TEST[*]

ITS VALUE IN THE DIAGNOSIS OF CHILDHOOD TUBERCULOSIS—WITH A REVIEW OF RECENT PROGRESS

By Ernst Wolff, M. D.
and
Robert S. Stone, M. D.
San Francisco

Discussion *by C. F. Gelston, M. D., San Francisco; Lloyd B. Dickey, M. D., San Francisco; Oscar Reiss, M. D., Los Angeles.*

The value of the tuberculin test in the diagnosis of childhood tuberculosis is based on the assumption that we are dealing with a specific reaction indicating infection. The certainty of this working hypothesis was challenged recently by Duken[1] and Baumler,[2] who tried to reëxamine twenty-four of their patients from two to ten years later. These patients had had positive reactions to the intracutaneous test in the dilution of 1:1000 and had been negative to the Pirquet test in the first twenty-four months of life. It was impossible to trace four patients. Of the remaining twenty patients one died, and no postmortem examination was obtained. On reëxamination fifteen patients were clinically and roentgenologically entirely negative and had a negative Mantoux by repeated tests up to two milligrams. The remaining four patients were infants, who had been tested during an attack of bronchopneumonia and who had subsequently died. They had either been repeatedly positive, or negative reactions had followed one positive reaction. Thorough postmortem examinations including tissue sections on the four infants had failed to reveal tuberculous changes. The explanation may be that in the first two years of life the Mantoux test causes a traumatic inflammation of the skin tissue which lasts longer than forty-eight hours after the injection. The authors, therefore, regard the Mantoux test in the first two years of life as being convincing only if the less sensitive cutaneous or percutaneous test is positive at the same time.

NEGATIVE TESTS IN CHILDREN WITH TUBERCULOUS INFECTIONS

The problem most frequently encountered is whether a negative test is conclusive proof of the absence of a tuberculous infection. The depressing influence on the reaction of various acute diseases is well known, especially measles, pneumonia, chicken-pox, epidemic meningitis, influenza, typhus abdominalis, and pertussis. The preallergic stage of a primary infection in tuberculosis is rarely seen. However, Happ and Casparis[3] found the Pirquet test positive in 50 per cent of patients having miliary tuberculosis and tuberculous meningitis, and Engel[4] found the Mantoux test positive in 94 per cent of these cases, which means that the skin sensitivity is only depressed and by no means absent.

What is the probability of finding a negative skin test in patients who suffer from tuberculosis but do not show signs of an overwhelming infection?

Hetherington[5] examined 2126 apparently healthy school children, eighty-two of whom had negative reactions to the intracutaneous injection of one milligram of tuberculin. Seven, or 8.5 per cent, of the nonreactors showed tuberculous nodules in the lung tissue and three, or 3.7 per cent, showed tuberculous tracheobronchial lymph nodes in the roentgenogram. There is a 20 to 1 probability that the tuberculin reaction will be positive in children who show lymph nodes in the roentgenogram, and a 100 to 1 probability in those revealing tuberculous tracheobronchial glands. On the other hand, children with latent lung infiltration, latent apical lesions and manifest tuberculosis had a positive skin test, without a single exception. In rare cases of keratitis phlyctenulosa (Harmstorf[6]) and of bone tuberculosis (Krause[7]), negative tuberculin reactions are observed.

RELATION OF ALLERGY TO IMMUNITY

The phenomenon of the disappearance of the positive test in children followed for many years leads to the question, what is the relation of allergy to immunity in tuberculosis? Various observers, for instance Austrian,[8] found the Pirquet test negative after five years of observation of dispensary children, but did not apply the Mantoux test, in increasing concentration, to check the degree of desensitization. Krause maintains that allergy and immunity correspond in their manifestations. If a marked degree of allergy represents marked immunity, it is difficult to understand why a case reported by the same author showed complete disappearance of the sensitivity to tuberculin following the healing of the tuberculous process in bone and glands. As there is frequent need to make a differential diagnosis between active bone or joint tuberculosis and Legg-Perthe's disease, it is very consoling that a negative tuberculin test is absolutely conclusive against tuberculosis.

Rich,[9] in opposition to Krause, states that "allergic hypersensitiveness is not necessary to immunity. Improvement appears in tuberculin therapy with the development of tolerance to tuberculin. Allergic reactions are proven to produce tissue necrosis." Desensitization would prevent this tendency, while leaving immunity intact. Allergy may be reduced to zero in the presence of progressive lung lesions. Moeller[10] makes the interesting point that tuberculin used for testing is an abnormal metabolic preparation produced *in vitro,* and increase of the tuberculin reaction or desensibilization means the creation of artificial anaphylaxia or antianaphylaxia. Both processes have no direct relation to the natural immunity. The problem is still more complicated by the fact that the failure of the skin to react positively is no proof of absence of allergy. Willis[11] inoculated guinea pigs with a low virulent strain of tubercle bacilli. The positive test disappeared slowly in the course of two years, but reappeared almost immediately after inoculation with a virulent strain of tubercle bacilli. In spite of a negative reaction, previous to the reinfection these pigs showed a high immunity compared with control animals. The conclusion may be drawn that reinfection is able to revive a vanishing tuberculo-allergy and immunity. These experiments and controversies have not only theoretical importance. In the evaluation of the B. C. G. immunization of infants against tuberculosis, the question is raised, has the vaccination protective value under the various degrees of allergy? Calmette,[12] on the basis of animal experiments, believes that even slightly positive or negative reactions after vaccination with B. C. G. do not disprove a rather high immunity. Wallgren[13] and many others assume that immunity exists only with allergy. As the tuberculin test, even by subcutaneous or intracutaneous B. C. G. vaccination, becomes negative after one to one and a half years, frequent reinoculations are necessary to keep up the supposed stage of immunity. The whole issue seems to the observer to be far from clarified.

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[*] From the departments of pediatrics and roentgenology of the University of California Medical School and the department of pediatrics of Mount Zion Hospital.

[*] Read before the Pediatric Section of the California Medical Association at the sixtieth annual session at San Francisco, April 27-30, 1931.

DEGREE OF THE TUBERCULIN TEST IN RELATION TO TUBERCULOUS PATHOLOGY AND SIGNS

The degree of the tuberculin reaction in relation to various factors and phases in childhood tuberculosis has found special consideration. In the children's chest clinic of the University of California Medical School 197 children reacted positively to the Mantoux test performed with one milligram tuberculin, and are graded as follows according to their infiltration:

Grade I. Infiltration 0.5 to 0.9 centimeter in diameter.

Grade II. Infiltration 1.0 to 1.4 centimeters in diameter.

Grade III. Infiltration 1.5 to 1.9 centimeters in diameter.

Grade IV. Infiltration 2.0 or more centimeters in diameter.

The following table shows the relation of the graded tuberculin tests to the percentage of positive x-ray findings:

This table shows that the percentage of positive findings increases as the grade of the tuberculin reaction increases.

The next consideration is the relation of the grade of the tuberculin reaction to the final diagnosis made on the patient.

TABLE 1.—*Positive Roentgenographic Findings*

The Percentage of Cases in Each Grade Group	
Grade of Tuberculin Reaction	Percentage of Positive Findings
I	18
II	25
III	34
IV	61

TABLE 2.—*Grades of the Tuberculin Reaction in Relation to the Diagnosis of Specificity*

Grade of Tuberculin Reaction	Percentage of Cases Showing		
	Active Tuberculosis	Any Evidence of Tuberculosis (Clinical or Roentgenological)	No Other Evidence of Tuberculosis Than Positive Reaction
I	0	18	82
II	10.8	28	72
III	19.0	50	50
IV	22.6	69	31

No cases of active tuberculosis were found in patients showing a Grade I reaction, and only 18 per cent of these cases gave any evidence of tuberculosis. This is a marked contrast with those cases showing the Grade IV reaction—22.6 per cent of whom had active tuberculosis, and 69 per cent gave some evidence of the disease.

Opie[14] has contributed an excellent study on the significance of the intensity of the tuberculin reaction in apparently healthy school children. His method differed from ours insofar as differing amounts of tuberculin from 0.01 to 1 milligram were injected and the intensity of the reaction recorded. He states that nearly all children with latent infiltration of the childhood type and three-fourths of the children with latent apical tuberculosis reacted to 0.01 milligram of tuberculin. Opie concludes "an intense tuberculin reaction may be associated with an apparently insignificant lesion, but the probability of grave infection increases with the intensity of the reaction."

METHODS OF TESTING

There are three questions regarding the choice of methods: Is the test accurate, easy to apply and innocuous? The intracutaneous and subcutaneous tests head the list in accuracy. Objections are raised against them because of the very marked local and systemic reactions which are occasionally encountered. We have used the dilution of 1:100 on ambulant children by the intracutaneous route for the past four years routinely and have had no disagreeable reactions other than an occasional vesicle formation, a slight temperature rise, or a moderately painful swelling of short duration. This routine procedure has the advantage that one injection will give definite information. Children in the hospital with symptoms or signs of activity should be tested with smaller doses at first, especially children with lung tuberculosis, as I have seen hemorrhage following the intracutaneous injection of one milligram of tuberculin.

The Pirquet or cutaneous test is easier to apply and causes much less local tissue reaction, but has an error estimated to be 15.8 per cent (Reiss[15]), 55 per cent (Smith[16]), and 58 per cent (Hille[17]).

ADVANTAGES OF PERCUTANEOUS TEST

The necessity of applying an instrument puts the Pirquet test and the Craig test (Forbes[18]), with its multiple puncture method, at a disadvantage when compared with the so-called percutaneous methods of testing. The percutaneous test, performed by rubbing tuberculin ointment into the skin, is most popular in Europe for testing school children on a large scale. Various preparations containing concentrated tuberculin, with and without the addition of killed bacilli, are used. The most popular preparations are Ektebin Moro and Dermotubin Loewenstein. The procedure is simple. Reactions are read after forty-eight hours, or even up to one week later, and consist in the appearance of inflamed hair follicles over the area of testing. A weak or. miliary medium, or a confluent and strong or vesicular reaction, are easily distinguished and compare roughly with the 1-3 plus reactions of the Mantoux test. The error is estimated to be 5.2 per cent (Harms and Seitz[19]) in ambulant infected children, 9 per cent in active tuberculous hospital patients, and 22 per cent in latent tuberculous hospital patients. We used the ointment test (dermotubin) on more than forty ambulant children and had only one discrepancy of reaction as compared with the intracutaneous injection of one milligram of tuberculin.

The Pirquet test introduces 0.01 milligram of tuberculin into the skin as estimated by Happ and Casparis.[3] All latent and active chest lesions in ambulant children react to 0.01 mg. of tuberculin, as found by Opie.[14] Therefore it may reasonably be assumed that the ointment test, which gives far less errors than the Pirquet test, is accurate enough for school examinations. In Vienna over forty thousand children entering the first grade have been tested since 1926 by this method to which the parents, with very few exceptions, did not object.

CONCLUSIONS

1. The intracutaneous tuberculin test is specific with the exception of children up to twenty-four months, where nonspecific reactions are observed in rare cases.

2. The tuberculin test is sometimes negative in apparently healthy children with nodules or calcified tracheobronchial glands in the roentgenograms.

3. The exact relation of allergy to immunity in childhood tuberculosis is unknown.

4. The intensity of the tuberculin reaction increases in proportion with the percentage of children:

(*a*) Having roentgenographic chest findings.

(*b*) Having active tuberculosis.

(*c*) Having clinical and roentgenographic evidence of tuberculosis.

5. The intracutaneous tuberculin test represents the most satisfactory method for hospitals and dispensaries, and the percutaneous or tuberculin ointment test is the most convenient method for institutions, schools, and private practice.

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DISCUSSION

C. F. Gelston, M. D. (384 Post Street, San Francisco).—Of the greatest value in investigating bronchial adenopathy in children is the correlation between clinical and roentgenological findings. Interpretation and diagnosis have been much hindered through the absence of such data. Of great aid, further, are clinical researches such as are here presented. In the first place, it is extremely significant that the intensity of the reaction increases directly with the roentgenological and clinical findings. This has often been doubted. Secondly, the occasional negative reaction in what appears roentgenologically to be tuberculous is of vital interest since it is just here that differentiation from tuberculous and nontuberculous infection is so important. The data obtained so far in this study are so informative that they will unquestionably stimulate further enlightening research.

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Lloyd B. Dickey, M. D. (Stanford University Medical School, San Francisco).—In any two diagnostic tests of equal accuracy, that performed with the least instrumentation will, of course, be the most practical. One must be careful not to sacrifice accuracy merely to prevent a slight and transient discomfort to a patient. In our clinic at Stanford University Medical School we have had no opportunity to use the ointments, but have compared the Craig and Mantoux tests. In the Craig test the instrumentation is practically negligible, and in about a hundred cases we have found it to be fully as accurate as the slightly more painfully administered Mantoux. We long ago discontinued the use of the Pirquet test, as it is obviously so inaccurate as to be impractical for clinic practice. If further studies prove the tuberculin ointment tests to be as accurate as the intracutaneous method, it will probably replace all those now in use.

In a study of the degree of skin sensitiveness to tuberculin, as administered intracutaneously, certain groups of our clinic children reacted more strongly than the average. Giving significantly stronger reactions were those suffering from bone and joint tuberculosis and phlyctenular conjunctivitis, children with recent contact to open tuberculosis, Chinese and Japanese children. In the contact children, and in the Orientals, this suggests that reinfection heightens the allergy in tuberculosis.

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Oscar Reiss, M. D. (1930 Wilshire Boulevard, Los Angeles).—Doctor Wolff's very interesting paper is a most stimulating one and leads us to wonder whether we do not have to revaluate some of our old ideas regarding tuberculin skin tests in children.

In regard to the negative Mantoux reaction one may still believe that except in the case of certain well known and well recognized exceptions, provided that a potent tuberculin has been used, it signifies the absence of tuberculous infection.

To be able to interpret a positive Mantoux in terms of degree of involvement, as proven by x-ray and clinical evidence, certainly widens materially the usefulness of tuberculin tests. Doctor Wolff's classification is worthy of wide adoption.

My own experience with the percutaneous test has been very limited, but I believe it offers the most desirable type of test and merits an extensive trial. For the past twelve or thirteen years I have depended entirely on the intracutaneous method of Mantoux using initially .01 milligram increased to .1 milligram and 1 milligram if necessary. I have on two occasions carefully checked my results in a considerable number of cases with a von Pirquet done simultaneously, and have found the Mantoux far more reliable. I hope in the near future to check a series of cases with the percutaneous method.

THE LURE OF MEDICAL HISTORY*

ESSAYS ON THE HISTORY OF EMBRYOLOGY†

By A. W. Meyer, M. D.
Stanford University

IX

SPALLANZANI

It is easy to understand Bonnet's enthusiasm over Spallanzani's experiments on cross-fertilization as expressed in the following words from his letter of January 13, 1871:

> "You are now in possession of a sure and easy way of ascertaining what species can procreate together; and the experiments you propose attempting next spring, by putting your voluptuous spaniel in the company of cats and rabbits, promise not so fair as those which you will make, by introducing the semen of this spaniel into the uterus of a doe-rabbit and a she-cat, and on the other hand, by introducing the semen of the male rabbit and cat into the uterus of a bitch. You hold in your hand a precious clue, which will guide you to the most important and unexpected discoveries. I know not, whether what you have now discovered, may not one day be applied in the human species to purpose we little think of, and of which the consequences will not be trivial. You conceive my meaning: however that may be, I consider the mystery of fecundation as nearly cleared up."

Bonnet surmised that,

> "From your numerous experiments on artificial fecundation it appears that attempts of this kind upon germs, while yet in the ovarium, or at the upper end of the ducts, will fail. I can, I think, assign the reason. The seed acts on these fetuses as a simple stimulant. Now there is an original relation between the latent power which causes the irritability of the contraction of the muscular fibre. If it has not yet attained the necessary degree of consistence, it will not be in proportion to the mode of action of that power, and its impression will therefore produce no effect. The germ must have arrived at a determinate growth before it can be susceptible of irritation. Such was the reasoning of the great Haller."

Although Spallanzani was a preformationist and believed that the amnion and umbilical cord exist in an invisible form, before fecundation, his investigations on fertilization rank very high indeed. They are outstanding for their number and ingenuity. The modest title of the two volumes, the one on plants and the other on animals, give little intimation of the many splendid experiments recorded there. In the introduction Spallanzani says that the subject of his second dissertation is "Artificial Fertilization," the first outlines of which may be seen in his "Prospectus Concerning Animal Reproduction." By artificial fecundation Spallanzani means insemination, of course. He says, "This was accomplished by means of the seminal liquor of the animals themselves; and I have succeeded as well as if the male himself had performed his proper function."

It is strange that by his experiments on plants, Spallanzani was convinced that the "fecundating dust," or farina foecundans as it was called, that is pollen, was "not so absolutely necessary as botanists in general suppose." However, he had an entirely correct attitude toward the problem of fertilization for he added, "It is said by many that fecundation is among the mysteries of nature; and like many of her operations, an object of admiration, rather than of inquiry. Such an opinion is highly agreeable to the idleness of man." He repeated the experiment of Swammerdam and Roesel von Rosenhof and found that mating frogs will discharge their sexual products even when confined, thus contradicting the statements of Linnaeus and Vallisneri in this regard. Vallisneri, it seems, held that the female frog will not lay eggs when separated from the male, but Spallanzani showed that she will do so if the separation is effected after the eggs have descended into the cavity of the uterus (oviduct), but that they will be sterile. Since it is now well known that the female frog will not lay eggs if wholly unmated, Vallisneri was right. The frogs Spallanzani used must have mated long enough for ova to descend into the oviducts, when expulsion instead of absorption will take place. Since the duration of mating seems to depend much upon temperature, and since the period is relatively long when the weather is cool, Spallanzani must have obtained females in which mating had been interrupted.

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* A Twenty-five Years Ago column, made up of excerpts from the official journal of the California Medical Association of twenty-five years ago, is printed in each issue of California and Western Medicine. The column is one of the regular features of the Miscellany Department of California and Western Medicine, and its page number will be found on the front cover index.

† This is the ninth paper of a series of essays on this subject. Previous papers were printed in this journal as follows: Part I, in December California and Western Medicine, page 447; Part II, in January number, page 40; Part III, in February number, page 105; Part IV, in March number, page 176; Part V, in April number, page 241; Part VI, in May number, page 341; Part VII, in June number, page 394; Part VIII, in July number, page 41.

Spallanzani confirmed the fact that the ova of frogs are fertilized outside of the body of the female and emphasized "the falseness of the strange opinion of Professor Menzius that the seed is emitted from the fleshy prominence of the toe and passing through many windings unknown to us, penetrates into the thorax, and then impregnates the egg." This idea that the male sperm enters the female through the clasping or nuptial pads of the front feet of the male was probably suggested by the tetanoid clasping of the female by the male and because many observers had failed to see the emission of sperm observed by Swammerdam. Some of the older observers believed that the female sometimes is strangled during mating in species in which the fore limbs of the male clasp her in front of her own fore limbs, instead of behind them.

In connection with these experiments Spallanzani states that the Abbé Nollet, in a letter written to him eight years before, said:

> "What you say of the existence of a tadpole, before we can perceive any act of fecundation, has particularly struck me. About thirty years ago Mr. Réaumur and myself made many researches relative to this subject. We attended for weeks very diligently and patiently, to what passed while the male embraced the female. I remember putting britches of wax taffety on the male and watching a long time, without perceiving any appearance that denoted an act of fecundation."

In commenting on this quotation from Nollet, Spallanzani wrote:

> "I will not here stop to inquire by what fatality it happened, that two naturalists, so intelligent and attentive, failed in their inquiries. The idea of britches, however whimsical and ridiculous it may appear, did not displease me and I resolved to put it in practice. The males, nothwithstanding this incumbrance, seek the females with equal eagerness and perform, as well as they can, the act of generation; but the event is such as may be expected, the eggs are never prolific for want of having been bedewed with semen which sometimes may be seen in the britches in the form of drops. That these drops are real semen, appeared clearly from the artificial fecundation that was obtained by means of them."

By paying "unremitting attention to every phenomenon" during the mating of frogs and toads and newts, Spallanzani observed the ejaculation of sperm by the male and carefully noted the developing eggs, but unfortunately came to the conclusion reached before him by Swammerdam, that the pigment in the frog egg represents the preformed tadpole. He described and pictured this tadpole as Swammerdam had done, and indicated how the one gradually changed into the other. He was firmly persuaded that the globules of two colors surrounded by mucus, were eggs, as all who had written on frogs, as Jacobaeus, Vallisneri, and Roesel had said, and rightly declared that since

> "greater deference was due to what nature showed so plainly, than to the authority of the most celebrated writers, it is fit to call these globules tadpoles or fetuses instead of eggs, for it is improper to name any body an egg, which, however closely it may resemble one, takes the shape of an animal without leaving any shell, as is the case with all animals that come from an egg."

Spallanzani exposed tadpoles to the sun and found that most of them died when the temperature reached 35 degrees centigrade. He tested the intensity of the sexual libido of the male frog by ablating different portions of the body and finding, to his amazement, that even a decapitated male will return to clasp the female if he is placed in contact with her. He found that he will continue to clasp her until death from hemorrhage releases the tonic contraction of his fore limbs. He also boiled and treated fertilized ova with vinegar and ascertained the effect of stagnant and replenished water upon them and tried the experiment suggested by Bonnet "the philosopher of Geneva," of drying fish eggs for a time to see whether they could subsequently be developed, but he found that this would not happen, thus discrediting the story told by Bonnet to the effect that large numbers of fish suddenly appeared in a dry pond with the onset of rain.

Spallanzani experimented also with tree-frogs and tried to determine whether "the gross visible part of the seed be necessary to the fecundation of man and animals, or, whether the invisible attenuated part usually called the seminal vapor or aura, be destined to this purpose." He says this is a very ancient question which still was debated in his day and calls attention to the fact that those philosophers and physicians who favor this idea "are obliged to maintain it from a sort of necessity rather than by any direct reason of experiment." He then considers the various arguments and says that he thinks they are insufficient to decide the matter and hence outlines a crucial experiment. Before telling of the results of this experiment he refers to the fact that "a drop of water, one-fiftieth of a line in diameter, taken from eighteen ounces of water, with which three grains of seed are mixed, is capable of impregnating a tadpole," and adds:

> "This experiment is apparently favorable to the seminal aura, which, in the general opinion, is nothing but the vapor of the seed exceedingly rarefied. The facts, however, which I shall adduce, clearly prove the contrary. That I might moisten tadpoles abundantly with this exhalation, I put a quantity of seed, amounting to eleven grains, taken from several fetid toads, into a watch-glass. In another somewhat smaller, I placed twenty-six tadpoles, which were fixed very firmly to the bottom by the tenacity of the gluten. I then inverted it over the former, and in this situation both glasses were left five hours in my apartment, where the liquor of the thermometer stood at 18°. The semen lay exactly under the tadpoles, and they could not but be involved in the rising vapours, for the distance was little more than a line. Upon inspecting the tadpoles at the expiration of the fifth hour, I found them so much covered with moisture, as to wet my finger when I touched them; the moisture was the evaporated part of the seed, which had lost one grain and half. The tadpoles, therefore, had been bedewed with one grain and half of the seminal aura, for it cannot be supposed to have escaped out of the glasses, they fitted so closely. The tadpoles, notwithstanding they were placed immediately in water, and left there several days, all perished.

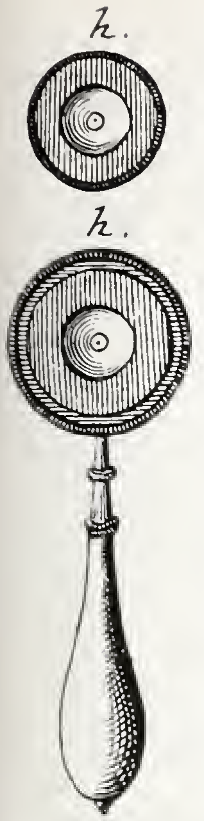

Fig. 5.—A magnifying glass after Lieberkuhn which Ledermuller says sold for thirty German dollars in 1745, and was altogether too expensive for every devotee of science. One-quarter size.

"Though this experiment is unfavorable to the aura, yet it stood alone, and I could not avoid further enquiry. One grain and a half ought indeed to fecundate many thousands, much more twenty-six. I however chose to increase the quantity of vapour, which could be done by only increasing the heat. Placing everything exactly as in the former experiment, I set the glasses in the window, where the heat of the sun, being moderated by the glass through which it shone, amounted to 25°, and could not therefore be prejudicial to fecundation. In four hours the spheres were so covered by the vapor, that drops were seen hanging from them. But the effect produced was the same as before.

"I repeated this experiment once more, not so much with a view of confirming the former results, as to see whether the seed, after part had been resolved into vapour, retained its efficacy. After the tadpoles were moistened with the exhalation, half of them were put, as before, into water, all which came to nothing. The other half were bedewed with a little of the residuum, and then put into water; they almost all came to perfection. These experiments shew, that the vapour of the seed of the fetid toad is incapable of impregnating the young, and that the seed, after a considerable evaporation has taken place, is still efficacious.

"Both these consequences were confirmed by subsequent experiments. The space between the tadpoles and the sperm was about a line: that the vapour might be more efficacious, I reduced it to one-third of a line, but still to no purpose. I have already observed that by the aura seminalis the vapour of the seed is generally understood. Some physiologists think that this exhalation consists of the odoriferous particles of that fluid; others that it is the most attenuated part, and others again that it is a very subtil spirit. Whatever it be, it is certainly incapable of producing fecundation. Yet as so subtil a spirit might be thought to escape at the meeting of the glasses, I determined to obviate this suspicion by cementing the edge of the upper glass to the inside of the other. I moreover substituted a little glass funnel in the room of the upper watchglass, and cemented it as before; the small orifice was hermetically sealed. The tadpoles were fastened to the neck, and the surface of the seed was enlarged that evaporation might be the quicker. I thought that the conical form of the funnel would collect the aura into the point where the tadpoles lay. This new apparatus was kept six hours in a heat of 26°, and the fetuses were surrounded continually by the vapour, but the event was still the same and the residuum was also efficacious.

"When I tried the effects of the aura in open vessels, where the air had free access, I found it just as ineffectual as ever.

"My last experiment made with this view was to collect several grains of the evaporated fluid. I then immersed twelve tadpoles in it, and left them several minutes. Twelve more were touched with the residuum, which did not exceed half a grain, but eleven of these grew to perfection, but not one of the others.

"These various facts concur to prove, that fecundation in the fetid toad is not the effect of the seminalis, but of the sensible part of the seed. But my enquiries have been extended further; the abundance of the toad with red eyes and dorsal tubercles, and of the green aquatic frog, has afforded me ample opportunities of repeating upon them the experiments described in paragraphs CLXII, CLXIII, CLXIV, CLXV. But the aura appeared on all occasions incapable of producing fecundation. My few trials upon the tree-frog agree exactly with the others."

These experiments finally ended the fable of the existence of a seminal aura, and of impregnation at a distance and of the old simile that "animals conceive young as the brain conceives a thought." Cole quotes Gautier d'Gouty in connection with this idea of Aristotle, Harvey, and others to the effect that Harvey apparently was writing for readers who already knew how a thought is formed, but what applies to Harvey applies also to others.

According to a letter to Spallanzani from Bonnet, "the famous Malpighi first imagined" the possibility of artificial insemination; that is, fecundation or fertilization, as they called it; and "the second Malpighi first succeeded in it." The animal concerned was a dog, and Malpighi's success in this instance stimulated Spallanzani to repeat this experiment. He also exhorted others to do so and to try hybridization as well, pertinently adding, "Reasoning will not illustrate this subject; experiment alone can supply the information we desire."

Although Spallanzani thought that sperm entered the egg through preëxisting pores, and energetically championed preformation, he nevertheless was a great experimentalist who did crucial investigations on the question of spontaneous and sexual generation. In spite of his errors he was cautious and declared:

> "From these conjectures we may be willing to believe, that it is the same in the species that have not been examined. But we can not be certain without experiments. . . . On many other occasions, when the law was supposed to admit of no exception . . . logical arguments have been found to disagree with experiment. . . . Daily experience shows, that in an immense number of animals, fecundation takes place within the body of the female. It might perhaps be thought, that we are warranted to conclude, from analogy, that this is an universal law of Nature. And it has accordingly been admitted as such by vulgar reasoners. But as on many other occasions, when the law was supposed to admit of no exception, so on this, analogical arguments have been found to disagree with experiment. Swammerdam first shewed, that impregnation is effected without the body of the female in one species of frog; and Roesel extended this discovery to another amphibious animal of a similar kind. I have had the satisfaction to discover this external fecundation in other species of frogs and toads, and have, moreover, clearly beheld the fecundating liquid issuing from the male, and falling on the fetuses (ova), after they were expelled from the uterus of the female."

When he refers to the idea of Linnaeus that the female fish is fertilized by following the male and devouring the sperm as the former discharges it; to the opinion of Buffon who asserted that they copulated, and to Haller who gave reasons to the same effect, Spallanzani adds that he cannot "think them [the statements] decisive, as they are destitute of facts, by which alone the problem can be solved." He continues, saying:

"The mode of fecundation in fishes is very extraordinary, according to Linneaus; he supposes, that the female pursues the male while he is emitting the semen, and devours it, and thus is impregnated. In the time of Vallisneri, there lived at Rome a physician, who taught that pigeons, sparrows, and many other animals, were fecundated by the mouth. Both these opinions are palpably false. Female fishes have, indeed, been observed to swallow the semen, not because it then serves to impregnate them, but simply for food. The male devours it with equal greediness for the same reason. The same observations are applicable to the eggs."

Spallanzani's many experiments on the effect of dilution of sperm until, as he said, it was "almost infinitely divided," were well conceived. They demonstrated that the fertilizing power of sperm was not lost through dilution, and some of his filtration experiments brought him similar proof. However, he was not deceived by these because he found that the fertilizing power of sperm was destroyed after filtration through several thicknesses of cloth. From this it followed that the animalcules were necessary for fertilization and that the fluid alone was insufficient. It would be unjustifiable to conclude, however, that Spallanzani even remotely surmised the mechanism of conjugation of sperm and ovum, still commonly spoken of as fertilization. His experimental work with sperm definitely established the fact that an *aura spermatica* does not exist and that the spermatozoa, as von Baer later called them, were indispensable agents in fertilization. These were important advances.

Since Spallanzani was a preformationist and ovist, he regarded the spermatozoa as "animating the heart of the embryo," as his friend and admirer Bonnet put it. A letter of Bonnet's indicates that Spallanzani mixed urine, vinegar, saliva, extracts from the liver and lungs, kidneys, and so forth, with sperm to observe the effects upon its fertilizing power. He successfully repeated artificial insemination of the dog and tried artificial cross-insemination of cats and rabbits with sperm from a spaniel. Spallanzani's own ideas regarding this matter were expressed in the following words:

"What remains principally to be discovered, is the formation of the mule, and what occasions the different marks of resemblance between children and their parents. Meanwhile, I pass on to the artificial fecundation of quadrupeds, concerning which I will observe to you, that I feel the greatest satisfaction at finding that my sentiments do not differ from those of your sovereign. When I succeeded in the artificial fecundation of a bitch, meditating with surprize upon my discovery, I conceived that it might be an excellent way to procure, if the thing be possible, different sorts of strange mules, an idea in which my illustrious friend Mr. Bonnet, to whom I usually first communicate my experiments, concurred. Hence I resolved to provide myself, at my convenience, with a number of female quadrupeds, as cats, bitches, rabbits, and to try to fecundate them with the seed of some different species, at the season of their amours. I likewise communicated this idea to Mr. Rossi, a celebrated Professor in the University of Pisa, that he might put it in practice: Dr. Rossi, as you perhaps know, is the naturalist, who last year repeated with success my experiment on the artificial fecundation of a bitch. Towards the middle of last November, when I returned to the university of Pavia, I procured two cats, one two years old, which had once brought young, the other eleven months old, and which had never produced. Both had the liberty of my chamber, but they could not get out, nor was any male ever permitted to enter: there was also in the same apartment a little spaniel three years and a half old, the same which had furnished the prolific liquor that fecundated the bitch. The older cat was first in season; this fell out on the 3d of December; incessant loud cries, sufficiently expressive of her wants, afforded a clear proof, that she now began to seek and to invite the male. Being unable to satisfy her desires by means of a male of her own species, and being by nature, like all other female cats, exceedingly salacious, she for the present forgot her antipathy to the dog-kind, and did not hesitate to approach the spaniel, and to invite him, by stroking his belly, and reiterated caresses; but he, without either hurting the cat or flying, never consented to her wishes, though he was of a very voluptuous disposition; he would smell her, and then turn with indifference another way. The third day after the appearance of these signs, I tried to fecundate my cat artificially with twenty-two grains of seed, furnished by the same dog. The same means and precautions were employed as in the experiment on the bitch. But having observed that the females of this species receive the male many times, I was not satisfied with a single injection, but repeated it thrice more before the cat went off her heat, which happened on the 11th of December; I kept her confined along with the other, as in a former experiment.

"You may conceive my anxious expectation of the result of this unattempted experiment. Should any one of my injections prove prolific, and should the young partake, both in form and manners, of the female which conceived them, and the male that furnished the seed, I fancied, that the most singular mules, and such as had never been before seen, would now be produced. With respect to manners, two most opposite natures would be kneaded together and be confounded; the one, that of an animal susceptible of education, full of courage, abilities, and sentiment, all ardour, all affection, all obedience to his master; the other, that of animal in internal qualities, far inferior, by instinct intractable, abhorring all subjection, faithless to its owner, affectionate only through interest, and born with an irreconcilable enmity to the former. Nor would the nature of these two animals engrafted together, be less different in a physical point of view, whether we consider the external configuration, the proportion of the limbs, or the internal organization. But unhappily this was an occurrence not easy to be brought about by the experimenter, and in which his labour is not crowned with success. The cat, notwithstanding all my care, was not fecundated. I was not, however, discouraged by this failure from repeating my attempt with the seed of the same dog and the same precautions, upon the other cat, which began to be in heat on the 18th of January, and instead of four, I injected seed seven times; that is to say, once every day as long as the season of her amours lasted. At each injection I did not introduce less than eighteen grains of seed; but impregnation did not take place; for from the last injection to the date of this letter, thirty-two days have elapsed, and there does not appear the least intumescence of the cat's belly. This is also the case with the other, though the experiment was made so long before. We know that these animals bring forth in about fifty-five days, and bitches in sixty-three at farthest.

"I would not, notwithstanding, pronounce the attempt impracticable, for I think that, to warrant such an assertion, a greater number of trials is necessary. These two experiments, however, may justly render us mistrustful of any that shall be hereafter attempted:

I shall not be surprized if they should prove unsuccessful, considering the widely different nature of these animals. But should this really happen, we ought not to be discontented, since Nature has thus replied to our interrogatories; and her responses, whatever they may be, should be held precious by us, as they serve to increase the stores of useful knowledge. Further, the failure of these attempts, ought not to prevent us from making others upon animals differing in their nature. It is true, that every kind of seed will not fecundate every species of animal. This liquor, on which depends the perpetuity of the species, must have a certain relation with the embryos to be fecundated; and it is natural to suppose that such a relation does not belong to all kinds of seed. But it is also true, that we can only learn from the effects, that is from experiment, when this relation does subsist. The very experiments which at first seemed contrary to the production of such and such mules, when repeated in a better manner, proved favourable to it. Buffon destroyed our hopes of procuring mules, by keeping rabbits and hares together, seeing that in the experiment he adduces, the one species never copulated with the other. But this conjunction has been effected by other hands, and hence hare-rabbits have been procured. A dog and a she-wolf, kept together for a long time by the same author, never shewed any sign of mutual attention. But the experiment, when repeated by others, had a very different degree of success. The mules that were by these means produced propagated their kind; Buffon failed in the same manner with respect to dogs and foxes: this experiment has not, as far as I know, been repeated by others. I should think, that in more expert hands, it would have been attended with a more fortunate result. But in the race of mules, there is nothing perhaps so curious and surprizing as the famous Jumart. Three varieties, you know, are enumerated, the offspring of the bull and mare, the ass and cow, and the bull and she-ass. Leger and Shaw admit the existence of all without hesitation; but Buffon, in his history of animals, reckons them all imaginary. Yet in his supplement, he does not absolutely deny the possibility of their existence, though he doubts it much. But in truth, the French Pliny was mistaken. Mr. Bourgelat, formerly inspector-general of the École Veterinaire at Lyons, in a letter to the illustrious Bonnet, expressly says, that he had been in possession of several of these Jumarts, and that one was dissected under his inspection in the school at Lyons; and he communicates the result in his letter to the philosopher of Geneva. The authority of this celebrated and ingenious person, merits the utmost deference. Assuming then the existence of this singular sort of mule, I could wish that they should be multiplied much more than they have hitherto been, both because they are well adapted to throw fuller light upon the great function of generation, and because they may possibly prove highly advantageous to mankind, as they are said to have been possessed of extraordinary strength. Natural fecundation, though studiously attempted, would not very fully accomplish this object, on account of the indifference, or rather the aversion of quadrupeds of various sorts to copulate together, especially when they happen to be placed at a great distance from each other. These illegitimate marriages take place only, when the ass or the bull cannot find the means of satisfying their desires upon their own species, and are moreover uncommonly ardent. Artificial fecundation, properly performed, would be most convenient in this case. I will add, most respectable Marquis, that I am well disposed to put it in practice; but my public and private engagements have hitherto prevented me, as also the expense, for I will openly acknowledge it, of keeping these animals for several months, to which the narrow income of a philosopher is not very adequate. Hence I made application to a rich person in Lombardy, to assist me in these experiments; but he was insensible to the proposal, a circumstance which did not surprize me, as it certainly will not surprize you, who know, that the nobility in many cities of Italy are not very friendly to science and literature. In order to satisfy my wishes I see no better expedient, you will excuse my philosophical freedom, than that of applying to you. The high honour you enjoy, in possessing a station in the court of one of the greatest princes upon earth, suitable to your eminent virtues and valuable endowments, of a prince, who is at once the delight of his happy kingdom, and the great protector of letters and learned men: your ardour for natural philosophy, and for whatever has a tendency to ennoble and advance it; your close connection with our famous royal academy of sciences and polite literature at Berlin, which is so desirous of enlarging the limits of this noble branch of knowledge, by the sure guidance of accurate experiments: these favourable circumstances afford me hopes, that you will not refuse to second my wishes. I am willing to believe, that you will choose the most advantageous moment to speak to your sovereign of this curious project; nor do I despair of his encouragement, since it may, in some sort, be termed a thought of his own. But enough of this. I proceed to another subject."

(To Be Continued)

HYGIENE A HUNDRED YEARS AGO, FROM AN ENGLISH VIEWPOINT

By S. L. Millard Rosenberg, Ph. D.
Los Angeles

A FASCINATING little book, interesting to physician and layman alike, and much of its subject-matter as timely and appealing today as it was a century ago, is the anonymous "Treatise on the Art of Living Long and Comfortably,* published in London in 1827.

The excellent English of this book would be hard to match in its period, when pompous and wooden manuals were abundant and even more insufferable as literature than intolerant in attitude. "A Physician," whoever he was, must have been a pleasant companion and an open-minded man. The pages of his book flow limpidly along, as in: "The turtle, when dressed in its natural state, is a most nourishing and palatable food; and the esculent frog tastes much like chicken"; and we note a suavity in his professional bearing, as: ". . . and this I think to be the general sentiment of intelligent medical men. Doctor Paris, indeed, in his treatise on diet, seems disposed to consider fish as easy of digestion, but I have been long convinced to the contrary, and am persuaded that most invalids will verify my conviction." This courteous language pervades the book along with its fastidious diction, as: "Cheese is digested with difficulty. Many suppose it to assist the digestion of other food, but I think this is a mistake. In some cases, where too much food has

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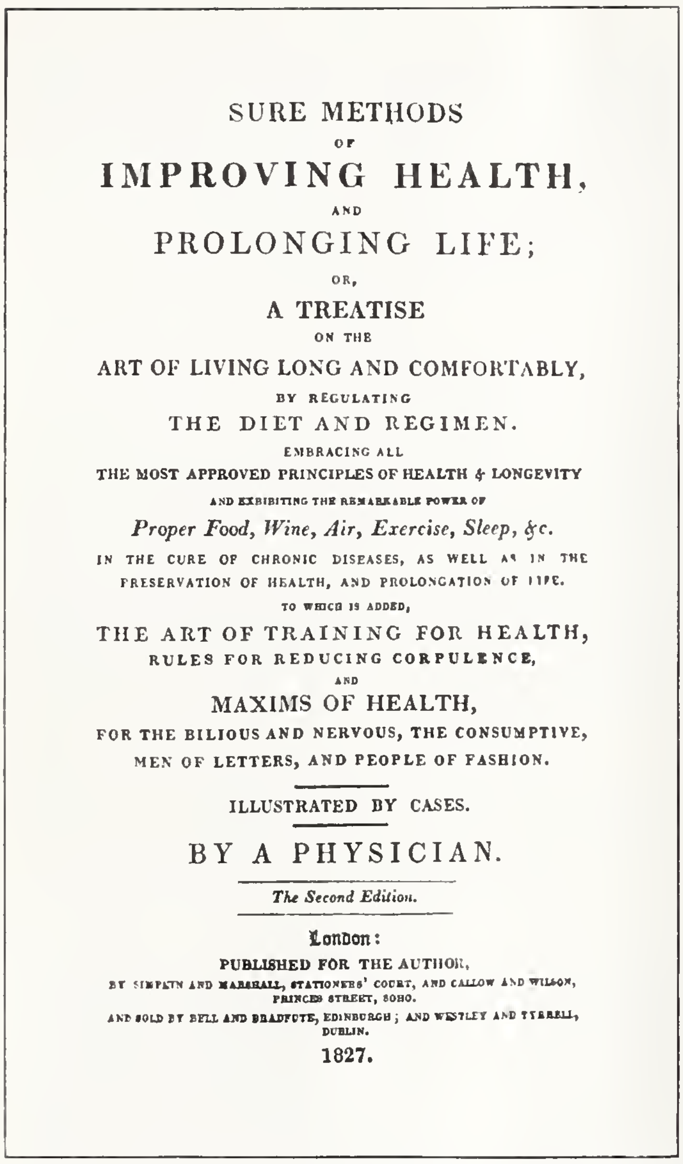
* Sure Methods of Improving Health and Prolonging Life, or a Treatise on the Art of Living Long and Comfortably by Regulating the Diet and Regimen." By a Physician. London, 1827 (2nd edition). 384 pages. A copy of the volume under discussion is now owned by the editor of California and Western Medicine, a gift from Perry Worden, Ph. D., of Pasadena, author and lecturer, to whom it had come as a present from the well known collection of rare books of the late W. T. Clark.



SURE METHODS
OF
IMPROVING HEALTH,
AND
PROLONGING LIFE;
OR,
A TREATISE
ON THE
ART OF LIVING LONG AND COMFORTABLY,
BY REGULATING
THE DIET AND REGIMEN.
EMBRACING ALL
THE MOST APPROVED PRINCIPLES OF HEALTH & LONGEVITY
AND EXHIBITING THE REMARKABLE POWER OF
Proper Food, Wine, Air, Exercise, Sleep, &c.
IN THE CURE OF CHRONIC DISEASES, AS WELL AS IN THE
PRESERVATION OF HEALTH, AND PROLONGATION OF LIFE.
TO WHICH IS ADDED,
THE ART OF TRAINING FOR HEALTH,
RULES FOR REDUCING CORPULENCE,
AND
MAXIMS OF HEALTH,
FOR THE BILIOUS AND NERVOUS, THE CONSUMPTIVE,
MEN OF LETTERS, AND PEOPLE OF FASHION.

ILLUSTRATED BY CASES.

BY A PHYSICIAN.

The Second Edition.

London:
PUBLISHED FOR THE AUTHOR,
BY SIMPKIN AND MARSHALL, STATIONERS' COURT, AND CALLOW AND WILSON,
PRINCES STREET, SOHO.
AND SOLD BY BELL AND BRADFUTE, EDINBURGH; AND WESTLEY AND TYRRELL,
DUBLIN.
1827.

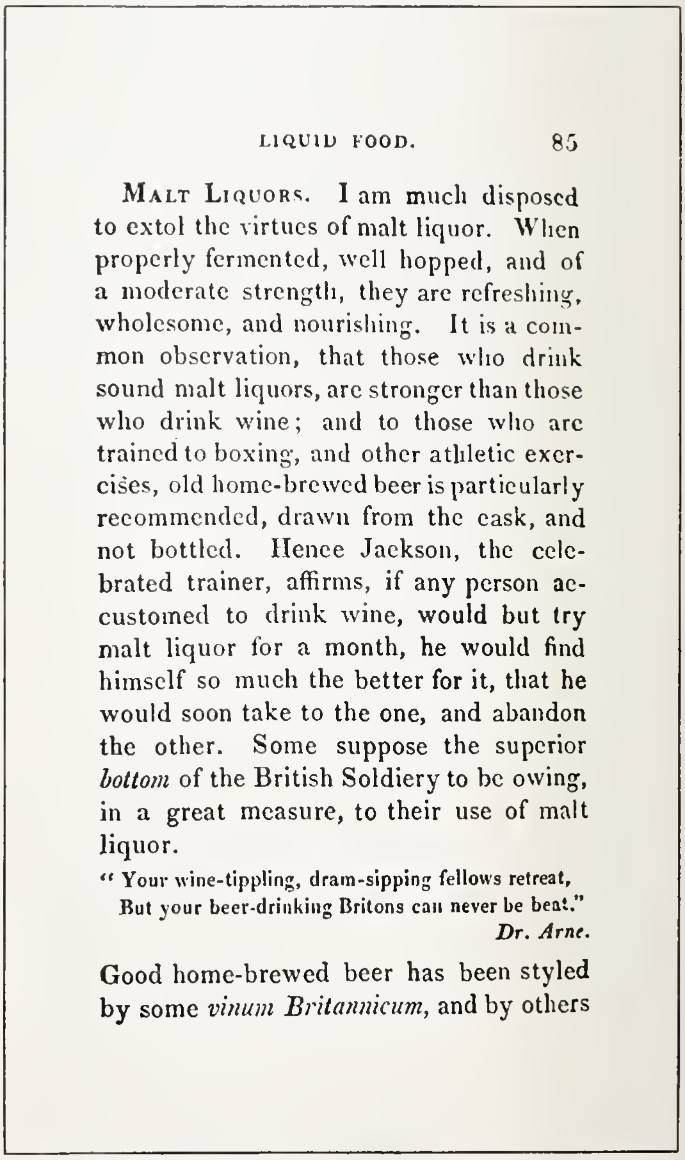
Fig. 1.—Reproduction of interesting title page, "Sure Methods of Improving Health and Prolonging Life," etc.

been taken at dinner, it has the power of allaying the present uneasiness in the stomach thereby occasioned; but it is at least very questionable whether it in any degree promotes the digestive process. It is a difficult question to determine satisfactorily, but in my opinion the real fact is that it impedes the subsequent digestion of food." Here is no fanatic, sneering at his fellows, but a well-read, well-bred man who respects them and thinks twice before he opposes their findings. And the format of the book equals the elegance of manner and dignity of attitude, for the treatise was beautifully printed by J. Davy in Queen Street at the Seven Dials, with a taste no less pleasing than the grace of the text. We can believe that the mere reading was a direct benefit to many valetudinarians. And that the spiritual counsel is as sound and helpful as the physiological appears from such passages as the following, which let us all take deeply to heart:

"Anger is universally known to be exceedingly injurious to health and unfavourable to long life. In respect to it I have merely to remind my readers that every one may gain a great command over his angry passions by resolute exertion, and how certainly such command will contribute to our peace and happiness I need not attempt to prove. A lady in the author's connexion had been for many years noted for the excessive irritability of her temper, but being at length fully conscious of it, and resolved to conquer it, she followed up her resolution with so much decision and perseverance as afterwards to become as remarkable for placidity as she had before been for the indulgence of irritability and anger. The studious cultivation of the kind and virtuous dispositions are of as much importance to health and longevity as they are to our advancement in life, and this fact cannot be too strongly enforced on the reader's attention. Kindness—

"Gives the flower of fleeting life its lustre and perfume,
And we are weeds without it."

An interesting section, especially in the United States of today, is that on wine, malt liquors, and spirituous liquors. The comparative space given to each is significant; wines and malt liquors, together, occupy 586 times as much space as spirituous liquors, which are dismissed in nine words: "I need hardly add that all liqueurs are pernicious." Wine, however, "is certainly a most valuable cordial. . . . But these good effects are all bounded by a very limited use of it, and chiefly of those kinds of wine in which water enters far more largely into their composition than the spirituous part. Such excellent effects from the use of wine are likewise, for the most part, altogether confined to the middle-aged and those advancing



LIQUID FOOD. 85

Malt Liquors. I am much disposed to extol the virtues of malt liquor. When properly fermented, well hopped, and of a moderate strength, they are refreshing, wholesome, and nourishing. It is a common observation, that those who drink sound malt liquors, are stronger than those who drink wine; and to those who are trained to boxing, and other athletic exercises, old home-brewed beer is particularly recommended, drawn from the cask, and not bottled. Hence Jackson, the celebrated trainer, affirms, if any person accustomed to drink wine, would but try malt liquor for a month, he would find himself so much the better for it, that he would soon take to the one, and abandon the other. Some suppose the superior *bottom* of the British Soldiery to be owing, in a great measure, to their use of malt liquor.

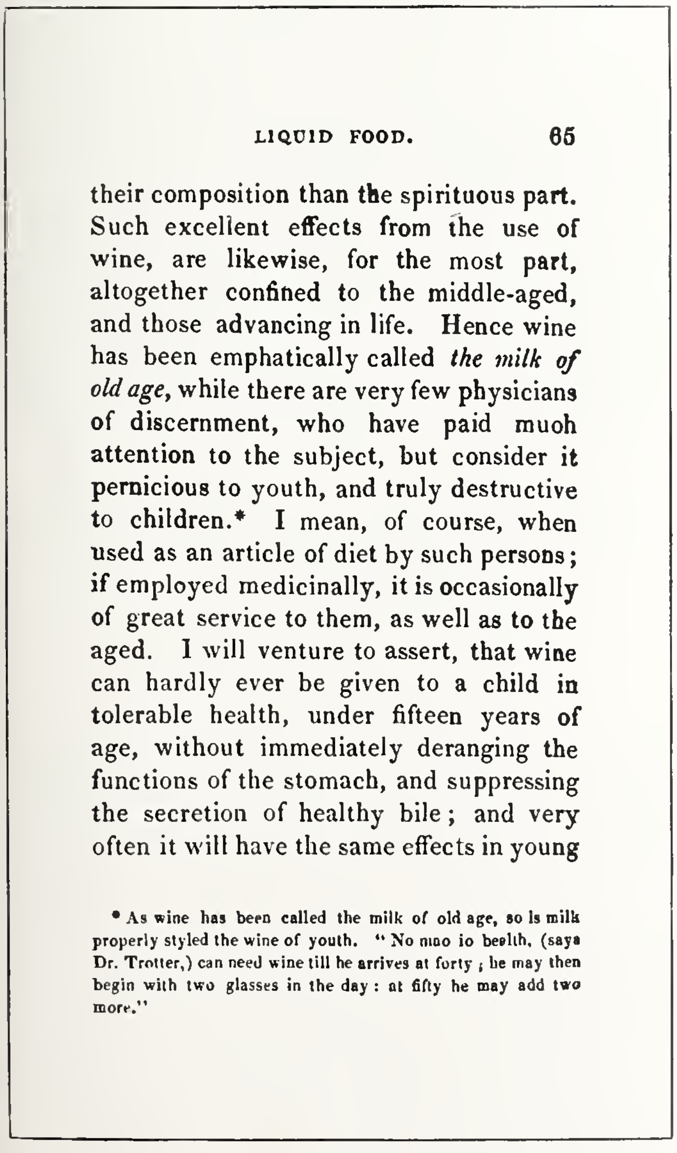
" Your wine-tippling, dram-sipping fellows retreat,
But your beer-drinking Britons can never be beat."
Dr. Arne.

Good home-brewed beer has been styled by some *vinum Britannicum,* and by others

Fig. 2.—Reproduction of page 85, presenting information concerning malt liquors.

in life. Hence wine has been emphatically called "the milk of old age"; while there are very few physicians of discernment who have paid much attention to the subject but consider it pernicious to youth and truly destructive to children." To this there is a footnote: "As wine has been called the milk of old age, so is milk properly styled the wine of youth. 'No man in health (says Doctor Trotter) can need wine till he arrives at forty; he may then begin with two glasses in the day; at fifty he may add two more.' "† But so scrupulous an author should not be misrepresented by a partial quotation, and one must continue for a little way the above passage: "I mean," he says, "of course, when used as an article of diet by such persons; if employed medicinally it is occasionally of great service to them as well as to the aged. . . . Parents who are anxious for the health of their children should never give them wine unless under the sanction of an able medical practitioner. I will venture to assert that wine can hardly ever be given to a child in tolerable health under fifteen years of age without immediately deranging the functions of the stomach and suppressing the secretion of healthy bile; and very often it will have the same effects in young persons much above the age now mentioned." Here, too, is a footnote, and it reminds us that scientific experiment in dietetics is not wholly of our generation. The footnote is: "Doctor Beddoes states that an ingenious surgeon tried the following experiment. He gave to two of his children, for a week alternately, after dinner, to the one a full glass of sherry, and to the other a large orange. The effects that followed were a striking proof of the pernicious effects of vinous liquors on the constitutions of children in full health. In the one, the pulse was quickened, the heat increased, the urine became high-coloured, and the stools destitute of the usual quantity of bile; whilst the other had every appearance that indicated high health. The same effects followed when the experiment was reversed."

The book does not consider diet alone, however, but also the regimen of exercise, sleep, reduction of corpulence, maxima of health for men of letters, for people of fashion, and for consumptives; rules and hints for European residents

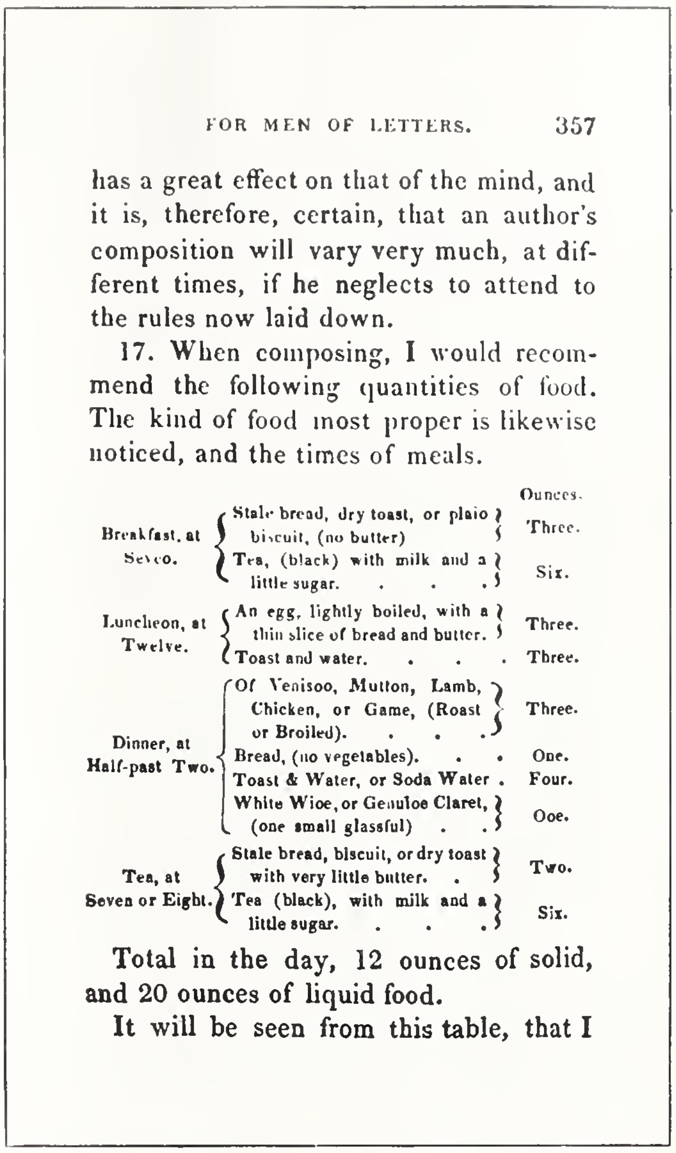


LIQUID FOOD. 65

their composition than the spirituous part. Such excellent effects from the use of wine, are likewise, for the most part, altogether confined to the middle-aged, and those advancing in life. Hence wine has been emphatically called *the milk of old age*, while there are very few physicians of discernment, who have paid much attention to the subject, but consider it pernicious to youth, and truly destructive to children.* I mean, of course, when used as an article of diet by such persons; if employed medicinally, it is occasionally of great service to them, as well as to the aged. I will venture to assert, that wine can hardly ever be given to a child in tolerable health, under fifteen years of age, without immediately deranging the functions of the stomach, and suppressing the secretion of healthy bile; and very often it will have the same effects in young

* As wine has been called the milk of old age, so is milk properly styled the wine of youth. "No man in health, (says Dr. Trotter,) can need wine till he arrives at forty; he may then begin with two glasses in the day: at fifty he may add two more."

Fig. 3.—Reproduction of page 65, describing the "Excellent effects from the use of wine."



FOR MEN OF LETTERS. 357

has a great effect on that of the mind, and it is, therefore, certain, that an author's composition will vary very much, at different times, if he neglects to attend to the rules now laid down.

17. When composing, I would recommend the following quantities of food. The kind of food most proper is likewise noticed, and the times of meals.

		Ounces.
Breakfast, at Seven.	Stale bread, dry toast, or plain biscuit, (no butter)	Three.
	Tea, (black) with milk and a little sugar. . . .	Six.
Luncheon, at Twelve.	An egg, lightly boiled, with a thin slice of bread and butter.	Three.
	Toast and water. . . .	Three.
Dinner, at Half-past Two.	Of Venison, Mutton, Lamb, Chicken, or Game, (Roast or Broiled). . . .	Three.
	Bread, (no vegetables). . .	One.
	Toast & Water, or Soda Water .	Four.
	White Wine, or Genuine Claret, (one small glassful) . .	One.
Tea, at Seven or Eight.	Stale bread, biscuit, or dry toast with very little butter. .	Two.
	Tea (black), with milk and a little sugar. . . .	Six.

Total in the day, 12 ounces of solid, and 20 ounces of liquid food.

It will be seen from this table, that I

Fig. 4.—A diet list for those "closely engaged in composition, since mental excersizes are then greater than at other times," etc.

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† Doctor Trotter's idea is not a new thing. In fact there is a parallel to it in Plato's Laws (666a) where it is recommended that "men above forty on festival occasions should engage in convivial gatherings and make Dionysus above all other gods a sort of medicine potent against the crabbedness of old age so that we may renew our youth."

in India and in the West Indies.‡ There is scarcely a thing to which the modern practitioner can take a decided exception, but I own that it has dampened my pleasure in the book to read: "Never read in bed nor while walking for exercise. These are most pernicious customs, extremely injurious to the eyes and the general health."

Curiously enough, there is not a word about smoking. Explain it as you will.

4508 Willowbrook Avenue.

‡ The volume contains a number of prescriptions. Of such, as examples, two are here appended.

STOMACHIC PILLS, NO. 1

Take of

Best Rhubarb, in powder, half a drachm.
Ipecacuan, in powder, half a drachm.
Castile Soap, one drachm.

Mix them well together, and, with a sufficient quantity of syrup of orange peel, make them into a mass, and divide into thirty pills. One to be taken thrice a day, in indigestion and bilious affections, to give tone to the stomach and bowels, for which they are very effectual.

APERIENT PILLS, NO. 2

Take of

Compound Extract of Colocynth, half a drachm.
Compound Rhubarb Pill, half a drachm.
Tartarized Antimony, two grains.
Oil of Carraway, four drops.

Beat them together into a mass, adding a little syrup of orange peel, if necessary, and divide into twelve or fourteen pills. One to be taken at bed-time, when confined in the bowels.

CLINICAL NOTES AND CASE REPORTS

AMEBIASIS

CASE REPORT—A PERSONAL EXPERIENCE

D.*

A RECENT article in CALIFORNIA AND WESTERN MEDICINE on this subject prompts me to retail my personal experience with this affliction. For

"The toad beneath the harrow knows."

In 1900 in a short residence in a section of Arizona where a large majority of the residents are affected by amebic dysentery, I acquired this disease. The first attack was mild. No fever and but a slight diarrhea. With attention to diet and avoiding green vegetables, I had but few recurrences for three years, when an attack of influenza woke up the enemy. For the first three days the temperature rose to 102. An acute coryza complicated. This was followed by more or less abdominal pain, with mild diarrhea. The fever continued for nearly six weeks, appearing intermittently on alternate days. Then I solved the real cause. Daily doses of sodium sulphate rapidly restored me to comfort.

The trouble recurred every year with an attack of cold and what is popularly known as intestinal flu. I may here remark that I have since observed that all cases of so-called intestinal flu only occur in subjects of latent amebiasis, and I believe should be treated accordingly. Every year these attacks became more frequent and more severe, and the colitis became more definitely limited to the ascending colon. In one attack the pain did not abate with the first two doses of emetin, and a third being administered, I awoke to the fact that I had appendicitis.

I sought surgical relief, and it was found that the parts were purulent and that the appendix could not be removed. A few months after this the pain and colitis returned. Hoping that an operation would isolate the infection and would seal the lesion, I waited so long that an abscess formed around the appendix. This was opened. After I had recovered from this, I went to the hospital and had the appendix removed. For about one year after the operation I had no recurrence, and my surgical colleagues affirmed that this was proof that it was just a chronic appendix.

Now, to my mind, to speak of a chronic appendix is equivalent to speaking of a chronic broken leg. After relief, I was still subject to recurrences and sought relief with the recommended remedies such as patren, neokleptol, bismuth, etc. All were futile. About two years ago definite ulceration evidenced itself by the passing of tarry stools. This lasted for two weeks, recurring in about a month, and lasting for ten days. All this began to look serious to me. Then the old remedy for dysentry, of copper and opium, occurred to me.

I began the use of copper with copper sulphate in one-quarter grain pills, thrice daily. After one month I stopped its use, as I was not certain of its effect on the liver. Two years have now passed without any sign of my former trouble.

It does not follow from this one experience that this treatment will be equally efficacious with everyone, as many naturally overcome the amebiasis. Practically all the inhabitants of the tropical countries are more or less infected, yet the mortality from the disease is low. Whether the remedy I used would be efficient in all cases only experience could tell. At all events it would seem to be an easy remedy to test out.

A HIGH FAT MODIFICATION OF JOSLIN'S DIABETIC CARD*

By JEAN M. STEWART, M. A.
AND
H. GRAY, M. D.
San Francisco

IN treating patients in the out-patient metabolic clinic our practice has been to get the patients sugar-free and then to put them on a maintenance diet selected ordinarily by choosing that line on Joslin's diabetic card [1] which contains as many grams in the protein column as the patient's weight in kilograms.[2] When the patient could not stay sugar-free on the diet, even after buying the usual movable dial scales and weighing the food, we have offered the patient the choice of taking insulin or of having the carbohydrate in the diet reduced. Such a large proportion of out-patients

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* Editor's Note.—The California Medical Association member who submitted this paper forwarded it with a letter giving his name and address.

* From the diet laboratory of the medical department of the Stanford University Hospital.

TABLE 1.—*High Fat Modification of Joslin's Diabetic Card—Isocaloric (Twenty-five Calories Per Kilogram), Isoprotein (One Gram Per Kilogram), FA/G Equals 1.5*

	Meals	Diet in Grams					Carbohydrates			Protein and Fat							
Line		Carboh.	Prot.	Fats	Cal.	Kilog.	5% Vegetables	Oranges	Oatmeal	Egg	Cream 20% Fat	Bacon	Butter	Meat	Oil	Cottage Cheese	Milk
1	Breakfast	7	8	35	....	15	......	50	....	1	60	....	20	....	....	....	....
	Lunch	16	12	29	....	26	300	50	....	1	30	....	20	....	....	....	....
	Supper	11	22	33	....	27	300	....	....	..	30	....	20	60	....	....	....
	Total	34	42	97	1177	....	600	100	....	2	120	....	60	60	....	....	....
2	Breakfast	6	17	49	....	21	......	40	....	2	60	15	20	....	....	....	....
	Lunch	17	15	25	....	28	300	40	....	..	30	....	20	....	....	45	....
	Supper	15	22	33	....	31	300	40	....	..	30	....	20	60	....	....	....
	Total	38	54	107	1332	....	600	120	....	2	120	15	60	60	....	45	....
3	Breakfast	8	17	49	....	23	......	60	....	2	60	15	20	....	....	....	....
	Lunch	19	18	40	....	34	300	60	....	..	30	....	20	....	15	60	....
	Supper	17	30	38	....	38	300	60	....	..	30	....	20	90	....	....	....
	Total	44	65	127	1579	....	600	180	....	2	120	15	60	90	15	60	....
4	Breakfast	8	17	49	....	23	......	60	....	2	60	15	20	....	....	....	....
	Lunch	20	26	51	....	37	300	90	....	..	30	....	20	75	15	....	....
	Supper	20	26	36	....	37	300	90	....	..	30	....	20	75	..	....	....
	Total	48	69	136	1692	....	600	240	....	2	120	15	60	150	15	....	....
5	Breakfast	17	22	57	....	35	......	50	15	2	60	30	20	....	....	....	.
	Lunch	17	28	49	....	38	300	50	....	..	30	....	20	60	15	30	....
	Supper	16	30	38	....	37	300	50	..	..	30	....	20	90	....	....	....
	Total	50	80	144	1816	....	600	150	15	2	120	30	60	150	15	30	....
6	Breakfast	17	22	57	....	35	......	50	15	2	60	30	20	....	....	....	....
	Lunch	18	28	49	....	39	300	60	....	..	30	....	20	60	15	60	....
	Supper	20	30	53	....	43	300	90	....	..	30	....	20	90	15	....	....
	Total	55	80	159	1971	....	600	200	15	2	120	30	60	150	30	60	....
7	Breakfast	22	24	58	....	42	......	....	30	2	60	30	20	....	....	....	....
	Lunch	22	28	64	....	45	300	100	....	..	30	....	20	60	30	30	....
	Supper	21	30	53	....	44	300	100	....	..	30	....	20	90	15	....	....
	Total	65	82	175	2157	....	600	200	30	2	120	30	60	150	45	30	....
Reducing Diet	Breakfast	28	13	11	....	37	......	120	15	1	....	....	....	....	....	....	120
	Lunch	27	16	4	....	37	300	120	....	..	....	....	....	....	....	45	60
	Supper	25	31	17	....	45	300	120	....	..	....	....	....	90	....	..	60
	Total	80	60	32	848	....	600	360	15	1	....	....	....	90	....	45	240

have preferred the alternative of reduction of carbohydrate that we have found it convenient (while keeping protein and calories the same as on his card) to modify Joslin's diets by reducing the carbohydrate and increasing the fat so as to yield Woodyatt's well-known 1.5 FA/G ratio. This procedure has been in use for two years and has been extremely satisfactory. In view of the widespread use of Joslin's diets, and particularly in view of his 1931 modification,[3] now printed on a brown card and giving higher amount of carbohydrate, it seems worth while to publish the modification which has been so serviceable here.

The reducing diet on the last line has been similarly useful in the treatment of obesity.

These diets diverge markedly from those recently published by Short.[4]

Stanford Hospital.

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BEDSIDE MEDICINE FOR BEDSIDE DOCTORS

An Open Forum for brief discussions of the workaday problems of the bedside doctor. Suggestions of subjects for discussion invited.

PREVENTION AND POSTPARTUM CARE OF TENDER AND FISSURED NIPPLES

Edward N. Ewer, M. D. (251 Moss Avenue, Oakland).—Maceration and traumatism caused by nursing often result in erosions and cracks in the epidermal layer of the skin of the nipple. Thus the papillae are left unprotected and the lesions not only become extremely tender but furnish entrances for pyogenic organisms which may cause infection.

Prenatal preparation of the nipples has for its object the toughening of this epidermis.

It is desirable that the skin of the nipple should become of a texture which will resist maceration and at the same time be pliable. These results are not attained by applying albumen-coagulating astringents such as brandy, cologne, tannin, and alum. These agents harden the skin and make it brittle, but not pliable. Neither should the tissues be soddened by greases, salves, and oils.

It is notable how little change we find in this line of textbook treatment as time passes, in spite of the fact that concurrently we are told that 40 to 50 per cent of primiparae continue to suffer with fissured nipples. Occasionally a writer ventures a doubt as to whether these measures *ever* prevent sore nipples, suggesting that they seem to be an unavoidable accompaniment of the early stage of lactation.

Fortunately we need not be so pessimistic. The epidermis can be rendered resistant by daily dry friction with a crash towel or preferably with a small soft nail brush which can be sterilized. This must be done during the whole of the latter half of pregnancy; gently at first, for roughness before the nipples become toughened may make them bleed.

The nipples and breasts should be washed daily with soap and water to remove all crusted secretions, and the brushing should be done later when they are quite dry.

If the nipples are small or moderately inverted, attempts may be made to form them by manipulation with clean fingers or by pulling them out with a warmed bottle. An eight-ounce nursing bottle will do. It is to be filled with hot water, emptied and the mouth inverted over the nipple. Badly inverted nipples cannot be made to perform their service.

Too much washing during the puerperium is bad. Thorough cleansing with sterile cold water immediately after nursing, followed by careful drying and covering with four-inch squares of sterile gauze held in place with tie straps is sufficient. The nipple then remains in clean condition for the next nursing, and half the usual washing is eliminated. Certainly, making a few dabs with a toothpick and cotton applicator moistened with boric solution before and after each nursing is useless.

Even a well-prepared nipple subjected to prolonged nursing after secretion ceases may become sore. The mother can easily be taught to note when the infant stops swallowing and it should not then be allowed to use her nipple as a pacifier. Nurses often wrongly insist on twenty minutes for a feeding even though milk is no longer obtained after the first five or ten.

If these suggestions for prenatal treatment of nipples are faithfully carried out, cracks and erosions will be exceedingly rare. When they do occur and resist treatment, substitute feeding, now so wonderfully successful, is to be advised rather than to subject the mother to the torture of prolonged attempts at breast nursing.

* * *

Chris R. Halloran, M. D. (1052 West Sixth Street, Los Angeles).—The busy obstetrician frequently considers that since the breast is a gland of the skin the dermatologist may not be excused from interest in the mischief the organ so frequently makes during lactation.

According to different authors the frequency of tenderness and fissures of the nipples varies, the average estimation being between 40 and 50 per cent. Blondes seem more susceptible than brunettes, and the occurrence is much more frequent in primiparae than in multiparae. Some authors consider the etiology of the sore and fissured nipples to be primarily bacteriologic, others contend that the trauma of nursing is the most important factor. Malformation of the nipple, particularly the retracted nipple, predisposes to inflammation since the trauma it receives during nursing often removes the epithelium at various points, leaving the unprotected papillae to be readily attacked by bacteria.

There is marked difference of opinion as to the value of various prophylactic measures. Van Dolsen[1] found that hypochlorite solution, one-tenth of one per cent, sopped on the nipples for one minute before nursing, greatly decreased the occurrence of soreness or fissuring, whereas the use of boric acid solution was proven ineffective. Mabbott[2] instructs his patients to thoroughly massage the nipples with lanolin at bedtime each night for four to six weeks before the expected date of confinement. Beck[3] considers that another important factor is trauma to which the nipples may be unnecessarily subjected the first few days after delivery, during which period little or no nourishment is obtained from the breast. The nipples may be spared this unnecessary trauma by permitting the child to go to the breast only every six hours for the first two or three days and by using but one nipple at these nursings for five minutes. After the milk comes in, feedings may be given every three or four hours and last for twenty minutes.

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[1] Van Dolson, W. M.: The Fallacy of the Present Treatment of the Postpartum Breast, Am. J. Obst. and Gynec., Vol. 13, No. 2, p. 236 (Feb.), 1927.

[2] Mabbott, J. Milton: The Prevention of Sore Nipples, N. Y. Med. J, Vol. 68, p. 371.

Through the courtesy of Dr. Lyle G. McNeile, a ward in his service at the Los Angeles County General Hospital was set apart and a series of some two hundred cases of tender and fissured nipples was studied over a period of several months.* Cultures taken from a few cases selected at random revealed micrococcus catarrhalis and staphylococci. Fissured nipples seemed more prone to develop in two classes of cases: (*a*) In nipples that were not sufficiently hardened to withstand the trauma incident to nursing, and (*b*) in nipples that were not sufficiently pliable. With the first group of patients an attempt was made to toughen the nipples morning and evening with applications of glyrecid of tannin. The nipples of the *b* group were massaged twice daily with cocoa butter.

The most effective prophylactic measure was found to be the routine application, before delivery and for the first three days after delivery, of compound tincture of benzoin twice daily. All patients tolerated the routine compound tincture of benzoin care except one red-haired woman who developed a slight venenata which subsided upon discontinuation of the treatment. Nipples that in spite of this care began to become tender responded equally well to castor oil and bismuth paste—equal parts, applied between nursings; or to an ointment of two per cent resorcin in equal parts of lanolin and white vaselin. The majority of nipples in which a crevice occurred were found to respond readily to painting the fissure with 70 per cent alcohol. If this procedure did not clear up the condition within twenty-four hours, a compress of alcohol twice daily, followed by an hour of exposure to the direct rays of the sun, gave a rapid response. The compresses of alcohol, however, were found irritating to a few blond patients. The most marked cases of fissuring were found to respond best to painting the crevice twice daily with silver of nitrate followed by an hour of exposure to the direct rays of the sun.

Wax-paper covers proved to be the most satisfactory dressing. It was found that if the tincture of benzoin was permitted to dry before the covers were applied they did not adhere.

Philip Arnot, M. D. (490 Post Street, San Francisco).—The most common symptom of fissured and eroded nipples is tenderness. This varies with different individuals, but it is usually quite marked and makes the act of nursing very painful. It is usually limited to the nipple, although occasionally the pain radiates out into the breast.

Bleeding is not always present and varies in amount. If it is very much the baby usually swallows some blood during nursing and, if vomited up, usually creates considerable alarm among members of the family. Bleeding is more common with fissured nipples than with eroded ones.

The prognosis is usually good and the lesions usually will heal up in four or five days if properly treated. If there is no improvement after four or five days' treatment the baby should be put upon formula and the breasts dried up.

The danger of mastitis and possible abscess formation is too great to allow the lesions to remain indefinitely. If they are not well after five days of treatment the breasts should be dried up. In some cases the exquisite pain and bleeding continues unabated in spite of treatment, and one may have to start drying up the breasts within one or two days.

Some patients may respond rapidly in the hospital, only to go home and develop abscesses within two weeks. One can never predict which patient will or will not develop an abscess.

As regards treatment, the baby should not be allowed to nurse directly on the nipple but should nurse through a combination glass and rubber nipple shield, care being taken to see that the openings in the rubber nipple are large enough. In rare cases this may not work and the breasts should then be pumped at regular intervals.

The fissures should be touched up twice daily with silver nitrate stick and an ointment containing compound tincture of benzoin, olive oil and lanolin applied after each nursing or pumping. I have also used merthiolate ointment with good results. This ointment is washed off with boric acid solution before each nursing.

For eroded nipples a drop or two of 5 to 10 per cent silver nitrate should be applied twice daily and then one of the above ointments applied.

Lead Poisoning in Children.—According to McKhann, lead poisoning in children produces a severe and dangerous form of cerebral involvement in which the symptoms apparently are dependent on the development of an extreme cerebral edema. Less frequently there is encountered the peripheral neuritis commonly observed in adults with lead poisoning. Children who survive a severe lead encephalitis are frequently left with permanent neurologic disorders. The early diagnosis of lead poisoning based on a carefully taken history and physical examination, confirmed by roentgenologic and laboratory data, should lead to the institution of active therapy, which may result in the prevention of the development of serious neurologic manifestations. In the presence of the acute, severe cerebral manifestations, attention must be directed toward the control of greatly increased intracranial tension.—*Archives of Neurology and Psychiatry,* and *Journal of the American Medical Association,* Vol. 98, No. 17.

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[3] Beck, Alfred C.: Care of the Breast During Pregnancy and Puerperium, Am. J. Nursing, Vol. 23, No. 8, p. 798 (Aug.), 1928.

* The writer wishes to express his appreciation to Dr. Lyle G. McNeile for permitting him to make this study, and to Miss Margaret Komar for her nursing supervision.

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Leaflet Regarding Rules of Publication. — California and Western Medicine has prepared a leaflet explaining its rules regarding publication. This leaflet gives suggestions on the preparation of manuscripts and of illustrations. It is suggested that contributors to this journal write to its office requesting a copy of this leaflet.

EDITORIALS*

THE NEXT LEGISLATURE—WHY IMPORTANT TO PHYSICIANS

Reasons Why Physicians Should Be Interested in the Complexion of the Legislature.—In the July CALIFORNIA AND WESTERN MEDICINE attention was called to the primary state election of August 30 and to the final election to be held on November 8. Reference is again made thereto in this issue and will be noted also in future numbers. The complexion of the California Legislature is something in which all physicians should be interested, because if a militant group that is antagonistic to the best public health interests comes into being in a legislature, it means attacks and danger to many of the public health measures which it has taken the profession years of hard effort to bring into being. Because it is human nature to leave to others duties that are not pleasant, it is necessary to recur to these legislative topics in the official journal of the California Medical Association. If committees on public policy and legislation of our state and county medical societies could handle these matters alone, no appeal for coöperation would be made here.

Since those committees can only succeed in their work of public health conservation when support is given by the physicians of the state and by the lay fellow citizens who have faith in those physicians, it is necessary for CALIFORNIA AND WESTERN MEDICINE, through printed word, to impress upon all members of the California Medical Association that every physician has civic and professional responsibilities in these legislative matters.

* * *

List of Candidates for the California Primary Election.—From the office of the Secretary of State of California has recently been issued a large eight-page folder for the information of the county clerks. It contains the names of citizens of California who have filed legally satisfactory credentials permitting them to become candidates for offices in the California primary election, which will be held on Tuesday, August 30, 1932. The offices for which the candidacies are filed include the United States Senate, United States House of Representatives, California State Senate, and California State Assembly. If space permitted, CALIFORNIA AND WESTERN MEDICINE would have been tempted to print the entire list with its information on titles of office, names of candidates, post office addresses of candidates, candidates' designations of office, occupations, etc., and their political party affiliations. The law evidently does not require each candidate to state his office, profession, vocation, or occupation, for in that column are many blank spaces. Perhaps this is due to the fact that in these strenuous economic times some of the candidates must of necessity permit their names to appear with blank lines where the job column is indicated. The incumbents and the attorneys-at-law, as usual, furnish the backbone of the list. There are two or three physicians, several real estate men and farmers, two or three editors, one auto park owner, an optometrist, an "electragist" (?), and so on. In some of the districts the candidates are numerous, especially in those located in urban centers.

County society committees on public policy and legislation will find this Form 11 of the "Certified List of Candidates for Nomination," prepared by the Secretary of State and the Attorney General of California, to contain information of considerable value. The real test will come after the primary election of August 30, 1932, for then the list will be narrowed down to single candidates from the Republican, Democratic, Prohibition, Socialist, and Liberty parties, these last three, however, being represented in only a small number of districts.

* * *

The Medical Profession Should Be Represented by More Candidates.—It would have been gratifying to have noted a larger number of physicians among the candidates. The medical profession has important legislative interests at stake. The price for public service as a legislator is, however, too great for most physicians in active practice to pay; and members of the profession who have retired from practice probably prefer their independence and comfort to the controversial atmosphere which is a part of the game of running for public office. Nevertheless, it would be an advantage to the public and to the profession if physicians, who are in position to do so, would consider public office. In European and Latin countries members of the medical profession are much more often seen in public service than in the United States. Their example is worthy of emulation.

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* Editorials on subjects of scientific and clinical interest, contributed by members of the California Medical Association, are printed in the Editorial Comments column, which follows.

* * *

Leaflet Giving Boundaries of State Senatorial and Assembly Districts.—Lay fellow citizens who manage political campaigns for their respective parties possess and utilize accurate data concerning the political affiliations of citizens living in different legislative districts. Many public service corporations and vested interests also have efficient bureaus in which such information is tabulated and made accessible. The medical profession, on the contrary, even though it has direct and grave interests of its own, and equally great interests of lay fellow citizens, through custodial public health responsibility, year after year has left it to a few members to give gratuitous service and to bear the brunt of the hard work of which there is so much, when legislative campaigns and sessions are on. A consummation devoutly to be wished would be that the officers and members of county medical societies would take more interest in these matters and give more active and real coöperation to their committees on public policy and legislation.

One of the first necessities of intelligent interest in this work is to know what are the boundaries of the state senatorial and state assembly districts of California. This information can be easily obtained by writing to the Secretary of State and asking for a copy of Assembly Bill 301, Chapter 180, which leaflet gives the boundaries of the forty State senatorial districts and of the eighty State assembly districts. In the urban centers, where there are two or more assembly districts, the local committee on public policy and legislation should create subcommittees of physicians to report in regard to each district. In that way, by approaching each district unit in proper manner, much better end results should be possible. The secretary of every county medical society is requested to write for the above leaflet, since it will give valuable information to his fellow officers and the local committee on public policy and legislation. This simple duty promptly performed and followed up can be of real service to the public health interests of California.

SAN FRANCISCO ENACTS A CLINIC ORDINANCE

The San Francisco Clinic Ordinance.—In this issue is printed the San Francisco ordinance regulating the operation, maintenance, and licensing of clinics in that city. It is given a place in this issue of the official journal for its suggestive value to California health officers and county medical societies. (See page 141.)

That clinics should have supervision cannot be gainsaid. That it has been difficult in the past to bring proper supervision into legal being is also acknowledged. That many so-called clinics have come into existence in recent years which are not really clinics as that term is ordinarily understood is apparent to all who have studied the clinic situation in California. An ordinance requiring the licensure of clinics almost justifies its existence if for no other reason than that the clinics of a city then become a matter of record. As things now are, in most of the cities of California no such lists are obtainable. That is precisely the set-up desired by fly-by-night and unworthy institutions or organizations hiding under the name of clinic or dispensary or health association or what not. Such undesirable institutions for too long have mulcted many of the unsuspecting public through their alluring promises and their equally deplorable services.

Two years ago a tentative bill was prepared by a Los Angeles committee which had for its purpose the enactment of a state statute that would deal with clinics. That draft incorporated desirable provisions from the New York and Massachusetts clinic laws. In an effort to make it all-inclusive of that type of institutions, special consideration was given to the definition of a clinic. An all-inclusive definition is not easy to formulate. Two tentative drafts of such definitions which were then made are printed as addenda to the San Francisco clinic ordinance. After much time had been given to the subject, the draft was presented to the California Medical Association Council. Conditions existing at that time led the Council to advise that the bill be not introduced at the legislative session of two years ago. It was also hoped that further study would probably result in the formulation of an even better bill.

* * *

Approach Through City Clinic Ordinances May Be the Best Method.—We are happy to learn that San Francisco has been successful in the passage of a clinic ordinance. In the beginning, perhaps, that is after all the best method of approach to the solution of this problem. If each of the cities of California in which one or more clinics exist will enact such clinic legislation, it should be possible, through comparison of results obtained through different types of clinic ordinances, to come to more definite conclusions as to the best kind of a state clinic statute, in case such a State law should be deemed advisable in the future.

In the preparation of such clinic ordinances, county society committees should avail themselves of the services of the California Medical Association Department of Public Relations. Our Public Relations Committee has been making a study of California clinics and is in position to render efficient aid.

CANCER COMMISSION REPORTS

The Purpose of the California Medical Association Cancer Commission.—At the San Francisco annual session of 1931, the House of Delegates of the California Medical Association brought into existence a Cancer Commission. That commission, as the representative of the organized medical profession of California, was to have as its work the promotion and furtherance of all efforts that would aid in the fight against cancer, with special reference to California. From the start it was sensed that no continuous and efficient service could be rendered by the commission unless central headquarters were provided. To attain that end the California Medical Association Council rented additional office room and authorized the employment of adequate clerical assistance.

* * *

The Personnel of the California Medical Association Cancer Commission.—The personnel of the cancer commission is listed in the directory of officers which is printed in every issue of California and Western Medicine. The commission created for itself a northern and a southern group to permit easier holding of conferences. Both groups have been active and, with the aid of advisory members representing the different specialties and fields of medicine, much investigation and exchange of viewpoints have been made. All who have participated in these conferences, by correspondence and otherwise, have been benefited. It may be stated also that members of the profession who have had a part in the studies of the commission are beginning more and more to harmonize their concepts concerning cancer and, what is more important, on what should be done to combat it most efficiently. As studies take on a form to permit of publicity to the entire profession, reports will be formulated and printed in California and Western Medicine.

* * *

Report of the Committee on Gynecologic Tumors.—In this August issue the Cancer Commission, through its Committee on Gynecologic Tumors, presents a report, the first of a series to be brought out by committees dealing with different phases of the cancer problem. In the preparation of this report colleagues who are members of the California Medical Association and who are in practice in different parts of California have given valuable aid. The report is called to the attention of readers of California and Western Medicine because it deals with an important subject and presents suggestions worthy of serious consideration by all members of the profession who may be called upon to advise patients having such tumors. The Cancer Commission is to be congratulated for having got its work so well under way. Members of the California Medical Association will look forward with increased interest to other reports which are to follow. (See page 131 for Report.)

COUNTY MEDICAL SOCIETIES AND HEALTH SERVICE COSTS

The Problem of Medical Care to Persons of Moderate Means.—Plans on how to give efficient medical care to lay fellow citizens who possess only modest financial resources have found much space in recent medical literature. All who have given thought to the problems involved agree on the need of better adjustments than now exist, both as regards the lay public and the medical profession. This is one of the major problems which led the House of Delegates of the California Medical Association to bring its Department of Public Relations into existence.

At the last two annual sessions of the California Medical Association, costs of illness problems were much stressed and the papers presented were printed in the official journal; the September 1931 issue containing a symposium of such contributions. President Harris of the American Medical Association, in his retiring address several years ago, emphasized the desirability of utilizing county medical units as the basic organizations in the solution of the problem. In the July California and Western Medicine, page 11, Doctor Brown of San Francisco presented a plan which also used county medical units as possible and desirable agencies for the inauguration of medical service to persons of moderate means, at prices within the financial resources of such citizens. The Santa Clara County Medical Society has been studying a somewhat similar plan which was submitted to the California Medical Association Council at its recent May 5 and 28 meetings. The possible utilization of county medical society resources is therefore something worthy of consideration. All members of the California Medical Association are members of component county societies and should be interested in such plans. The text and table presented in Doctor Brown's paper are commended to the perusal and consideration of members who have not read it.

* * *

Suggestions Welcomed by California Medical Association Department of Public Relations.—Letters of approval, criticism, or suggestions of that and other plans will be welcomed by the California Medical Association Department of Public Relations. That committee in its consideration of these medico-economic problems is anxious to obtain from members of component county societies throughout California their viewpoints on possible ways and means of procedure. Every member of the California Medical Association who has pondered this subject is invited to communicate with the department.

ANTIVIVISECTION PHOBIA

San Francisco Has an Antivivisectionist Experience.—Recently, in San Francisco, Director of Public Health Geiger suggested that a small number of the some 4,500 dogs uselessly destroyed in that city each year should be sent for experimental use to the research institutions of universities there located. By experimental use was meant the utilization of such animals in humane manner, in carrying on experiments which it was hoped would add to the store of human knowledge, so that disease in both human beings and the lower animals might be better overcome. Many of the diseases upon which knowledge as to causation, course, and treatment is needed are associated with much pain and suffering. Successful experiments might make it possible to prevent such pain and suffering in both human beings and the lower animals. Successful experiments would also make it possible to prolong life for both human beings and the lower animals, and thus aid in preventing mental and other suffering. But such commendable ends appeal very little to the superhumanitarians who set themselves up as the special protectors or guardians of the lower animals.

In the instance just referred to, their objections were promptly registered with the public authorities, so much so that newspaper discussion arose thereon. In the miscellany column of this issue is printed an editorial from the San Francisco *Chronicle* of July 11. (See page 140.) The points brought out therein are well known to medical men. It seems a pathetic reflection on our present day civilization that it should be necessary to give antivivisectionist protests so much repeated consideration, when it is known that the charges of cruelty, as applied to present day research laboratories in universities in our own and foreign lands have been so many times disproved.

* * *

The British Research Defense Society Report.—At the time the editorial above referred to was called to our attention, the editor chanced on the "Research Defense Society" report in the June 25, 1932, issue of the *British Medical Journal.* That report has a subhead "Sir Arthur Keith on the Conflict Between Sentiment and Reason." The report is an admirable presentation and is commended to the perusal not only of medical men and other humanitarian citizens but also to antivivisection protagonists. This report is printed in the current issue of CALIFORNIA AND WESTERN MEDICINE. (See page 141.)

* * *

"Humane" Treatment Applies to Both Man and the Lower Animals.—Referring again to the San Francisco situation, it is hoped that the public authorities will not be misled by either the high sounding aims or the vociferous and perhaps pestiferous annoyances of those who, in seeming defense of the lower animals, marshal statements which in our present day have little or no real basis as actual facts. Members of the medical profession dedicate their lives to the alleviation of suffering and prolongation of life. It seems strange that physicians who thus consecrate themselves in humane service to fellow humans should be accused of being inhumane to lower animals. If the charges of cruelty came from reputable fellow physicians they would be worthy of serious investigation. Coming from sources where facts are brushed aside when they interfere with so-called fanatical reform endeavors, the charges are only worthy of consideration because, unless given attention, the proponents of the charges are apt to mislead those who are in public authority. If the slogan is to be humane treatment for animals, then the human animal should also be taken into consideration. It is hoped the attack in San Francisco will come to naught.

The Hospital as a Medical Service Center.—Evidence is available which indicates that there is a definite trend toward private office practice in the hospitals of the United States, the one step necessary to make the hospital a community medical service center. What are the advantages and limitations of this procedure from the point of view of the medical profession, the hospitals, and the patients? The private physician, whether or not he maintains a special office within the hospital, has the advantage of continuously available professional personnel and scientific apparatus. If he actually establishes an office within the hospital, on either a full time or a part time basis, he gains from frequent contacts with other physicians whose judgment or services may be needed in diagnosis or therapy. The expense for office space in a hospital would be lower than for equivalent facilities obtained individually. Physicians could utilize common waiting rooms and office and technical personnel, thereby reducing important overhead costs in the conduct of their practice. When desirable, a group of independent physicians could engage a layman to supervise certain administrative and financial details of their activities. The physicians could, if they wished, coöperate in the maintenance of case records, not to mention their opportunities to substitute for and assist one another during emergencies, vacation periods, or absence at professional meetings.

The hospitals also would gain by a closer affiliation with the private physicians in their treatment of office cases. Personnel and equipment would be used to a greater capacity. Technical services would be maintained at a higher professional level through contact with and scrutiny by the physicians. Patients would become used to attendance at a hospital and more inclined to use its facilities when in need of bed care. In addition to coöperating with private physicians, the hospital might also become the center of the public health activities of its community. The benefits of the public's investment in hospitals, whether erected from voluntary contributions or from tax funds, would thus be made available to a large proportion of the community, for the private office cases of physicians are greater in number than the hospitalized illnesses and the patients now treated in fee out-patient departments combined.—C. Rufus Rorem, Ph. D., Chicago, in the *Journal of the American Medical Association,* April 16, 1932.

Tendencies Toward Specialization.—If the results of my studies are dependable, about 70 per cent of the graduates of each year will eventually limit their practice to a specialty. There are each year at least 5,000 graduates from American and Canadian medical colleges; 3,500 of these should then receive graduate training at some time after graduation. Thus, considering the graduates of the various years, there should be a total of 3,500 physicians each year beginning their graduate training. If one assumes that the period of such training would vary from two to four or more years, there should be adequate provision at all times for at least 8,000 to 10,000 graduates in training for the specialties.—Dr. H. G. Weiskotten, in the *Journal of the American Medical Association,* April 30, 1932.

EDITORIAL COMMENT

This department of California and Western Medicine presents editorial comment by contributing members on items of medical progress, science and practice, and on topics from recent medical books or journals. An invitation is extended to every member of the California and Nevada Medical Associations to submit brief editorial discussions suitable for publication in this department. No presentation should be over five hundred words in length.

Retinitis Pigmentosa—A New Treatment.—Retinitis Pigmentosa is a degenerative disease of the retina that is found more frequently in men than in women. There seems to be a definite hereditary tendency, and family trees which show the transmission of this disease through several generations have been published. The etiological factors of the disease have never been established. The course is well known, however, starting soon after puberty with the symptom of hemeralopia (night blindness) of a mild degree. This gradually increases in severity until the patient is almost blind at night. The field of vision early shows a peripheral loss which gradually increases in area until only a very small central field is left. Usually around the age of forty this remnant disappears also.

Fairly good central vision is maintained for a long time and it is not until the field is very small that the vision begins to fail rather rapidly. During the course of the disease there occur many periods, often several years in length, in which the disease makes no progress; but no cases of spontaneous recovery have been recorded. Inevitably the field begins to shrink again and eventually blindness overtakes the victim.

Fundus changes are very characteristic. In the early stages we see far in the periphery that the retinal pigment has migrated and is gathered in very typical bone-corpuscle shaped masses. As the degeneration progresses, these pigment changes invade more and more of the retina and gradually approach the macula. The retinal vessels become very narrow, the arteries almost hair fine, and the disk becomes a dirty, grayish yellow. Finally the pigment changes involve the whole of the fundus, only the region of the macula itself not showing these changes.

Up to the present, when the ophthalmologist has made the diagnosis of retinitis pigmentosa he has, at the same time, condemned the patient to eventual blindness. Treatment has been rather futile and consisted chiefly in stimulating the blood supply either by instillation of dionin, hot compresses, or subconjunctival injections of hypertonic salt solutions.

Recently, F. Wibaut[1] of Amsterdam published some startling results which may change this poor prognosis. In view of the fact that men were much more frequently attacked than women, he thought of trying the newly isolated female sex hormone. He started with moderate doses, with no results; however, when he gave tremendously large doses, he obtained marked improvement in one case.

In this case he gave one hundred mouse-units subcutaneously, daily, for a period of over six weeks. During this time the field which had shrunken to about 15 degrees in size broadened out to about three-quarters of the normal, and the vision improved from one-fifteenth to one-third. In other cases he did not have such brilliant success; two showed a moderate improvement, whereas two others, one of which was practically blind, did not improve. This work has been tried out at various other clinics with, usually, poor success.

Herrenschwand of Innsbruck, Austria, however, showed the writer the results in a successfully treated case. The patient was a comparatively young man who showed all the typical signs of retinitis pigmentosa: hemeralopia, shrinking field, and fundus changes. After vigorous treatment this field became normal, the hemeralopia less, and his vision improved though the fundus showed no diminution in the pigment changes.

Perhaps the poor success of other workers has been due to the fact that the therapy was chiefly tried in old, advanced cases. As the extract can now be obtained in a form to be given by mouth, we are now in a position to treat patients without the necessity of a daily visit. It is to be hoped that anyone to whom one of these desperate cases comes will try this new method of treatment, and publish the results so additional data can be gathered. In this way we can learn if there is anything to be gained from this treatment or not.

490 Post Street.

D. K. Pischel,
San Francisco.

Immunity in Diphtheria.*—Questions not infrequently arise concerning the status of individual immunity to diphtheria following an attack of this disease. Many assume that an attack confers immunity. If the reverse opinion is held it seems difficult to say wherein the patient, treated with antitoxin, differs from an individual treated with toxin-antitoxin or with toxoid. Discussions and such statements, for example, as quoted[1] in a recent number of the *American Journal of Public Health,* "We should imagine a fever nurse who had had diphtheria to have the maximum possible resistance to a second attack of that disease, yet it is possible even for her to die from it," indicate that the elements of the immunity status are frequently not pieced together, yet this status seems virtually proved. It is necessary only to gain a dynamic rather than a static concept.

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[1] Wibaut, F., Deutsche Med. Wochenschrift, No. 41, 1931.

* From the Department of Bacteriology, University of California Medical School, San Francisco.

[1] Note, Am. J. Pub. Health, 22:6, 1932.

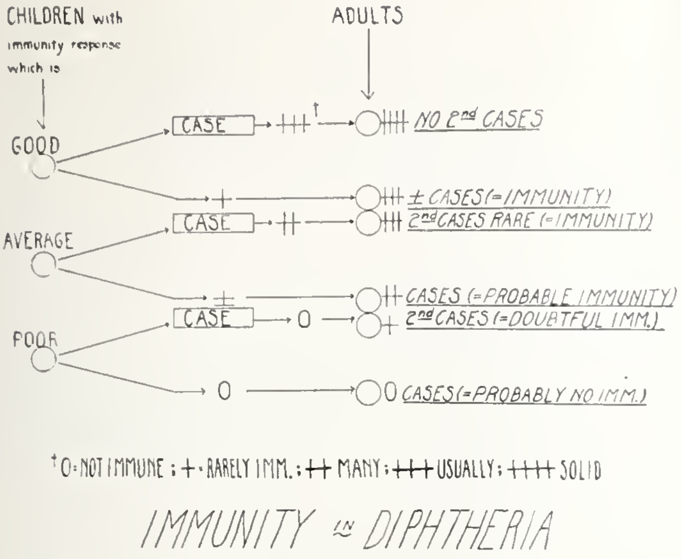
CHILDREN with immunity response which is
ADULTS
GOOD
AVERAGE
POOR
CASE
+++†
++++ NO 2nd CASES
+
+++ ± CASES (=IMMUNITY)
++
+++ 2nd CASES RARE (=IMMUNITY)
±
++ CASES (=PROBABLE IMMUNITY)
0
+ 2nd CASES (=DOUBTFUL IMM.)
0 CASES (=PROBABLY NO IMM.)
† 0=NOT IMMUNE; + RARELY IMM.; ++ MANY; +++ USUALLY; ++++ SOLID
IMMUNITY IN DIPHTHERIA

Fig. 1.—A constitutional factor indicates that a given child has, e. g., an average immunity response. During childhood the child may have diphtheria, after which, schematically, a two plus immunity is indicated. As an adult a three plus immunity is indicated—such persons rarely would have diphtheria a second time. The factors (1) immunity response, (2) presence or absence of an infection, and (3) environment account logically for any status. They may be weighed in the individual case.

The steps, which could be more elaborately supported lead as follows:

First: It was demonstrated in Hamburg[2] that of 4761 patients, 5.8 per cent had had diphtheria. Considering that the exposure a second time would be at least much less than 100 per cent, the actual incidence indicates that in a considerable number of cases adequate immunity is *not* conferred.

Second: A mass of data accumulated in New York City[3] and elsewhere indicates that age correlates with immunity, considering large groups. There exists adequate immunity usually for the first thirty or forty weeks[4] of life; the number of immune children of early school age is very low; and adults may be immune in 60 per cent or more cases. Kelly has shown that in California—and our experience with students is confirmatory—the normal percentage of immune adults in the state is much lower than the eastern reports might lead one to expect—sometimes less than 20 per cent in 18 to 28 age groups are immune.

Third: Okell[5] made a thorough study of immunized Schick-negative children between one and seven years after immunization. Of 440, twenty-two were Schick-positive (5 per cent). Of these, twenty developed one-fifth to one-twenty-fifth units of antitoxin per cubic centimeter of serum after the Schick test. The two refractory children had required two series of toxoid-antitoxin to give the original immunity.

The conclusion seems properly limited to one definite picture. A considerable number of constitutions are refractory to the development of immunity. From this group come many cases in children, and perhaps most of the adult cases of diphtheria. Such individuals, in a considerable number of instances, do not develop an immunity following one attack, and may thus acquire the disease a second time. Furthermore, a number of children, susceptible as such, and evidently depending on environment, become immune as adults. The majority of cases are in children. The attack may or may not confer immunity in the child, but he may yet be immune as an adult, depending on the status of his individual response to a given environment. Although such analysis involves several variable factors—the normal age-immunity status, and the degree to which the individual response is refractory—these are in themselves clear-cut and established. The long-range perspective of the immunity in a disease in which mechanism is clearer at least than in any other should not be so confused, as is frequently the case.

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Didactic Versus Practical in the Teaching of Clinical Medicine.—In general it may be said that the duty of clinical departments, like that of scientific ones, is to show how information may be gathered, and, when attained, how it may be interpreted. The student must be given the chance to observe and record and be inspired to study and think. He should get his facts for himself from patients, with such guidance as seems necessary, not have them handed to him in some sort of classroom exercise. . . . In speaking of the relative value of practical training and didactic instruction in clinical medicine, I should like to mention the educational value of responsibility. There is nothing which incites medical students to the acquisition of professional skill more than giving them responsibility for the care of patients. The sooner in their careers this can be managed the better. I recently read the address of welcome delivered by a distinguished anatomist to the students entering one of our leading medical schools. He had much to say of the awfulness of standardization in medical education and the necessity for freedom of thought and the development of a truly scholarly attitude on the part of the student. He must become learned since he is entering a learned profession. But learning is not all that is needed to make the good physician. Medical science is an applied science, and pure science and applied science are as far apart as the poles. They may, to a certain extent, speak the same language but their objects are utterly diverse. One is a means to an end; the other is an end in itself. The one seeks truth for truth's sake; the other seeks truth to help mankind. Which represents the loftier motive depends on one's philosophy of life. Medicine, however, is an applied science. In the training of students we should never lose sight of this, and the art of medicine, which includes but transcends the science, takes root in the feeling of responsibility the physician has for his patient's welfare and his desire to heal him. . . . The question is: What is the most important thing in medical education? Is it to cram the student just as full as we can of facts so that he may explode at the time of his examination? Or should we try to prepare him and acquaint him with the methods of acquiring knowledge so that he may continue to grow after he passes out from under our tutorship? The latter course will teach him the joy there is in acquiring knowledge as compared with getting information when it is handed to him on a silver platter. Such a person trained in the way to acquire knowledge must continue to grow. . . .—*Journal of the American Medical Association,* April 30, 1932.

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[2] Reiche: Med. Klin., 9:1663, 1913.

[3] Park: Quoted in Rosenau's "Preventive Medicine and Hygiene," p. 195, 1928.

[4] Neill, Gaspari, Richardson, and Sogg: J. Immunol., 22:117, 1932.

[5] Parish and Okell: Lancet, 2:322, 1928.

C. M. A. DEPARTMENT OF PUBLIC RELATIONS

An open forum for progress notes on the department's activities, and for brief discussions on medical economics. Correspondence and suggestions invited. Address Walter M. Dickie, Room 2039, Four Fifty Sutter Street, San Francisco. This column is conducted by the Director of the Department.

Do Corporations Practice Medicine?*

By Michael M. Davis, Ph. D.

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With the advantage of freedom which comes from being neither a lawyer nor a physician, I can approach this subject with the ease born of ignorance. One of the preceding papers seems to me to have made clear the point that corporations cannot legally practice medicine. Yet some of the remarks that have been uttered not only in this symposium but elsewhere indicate that the illegal, even the impossible, may happen. Illegal happenings on a large scale in other areas of law and practice are familiar to all of us. Nevertheless, there is an apparent contradiction. Surely there is an anomaly in the fact that complaints against the practice of corporate medicine continue in New York State in spite of decisions rendered there that a corporation is legally unable to practice medicine. In California again, the legal situation is equally clear, yet even a larger amount of so-called corporate medical practice exists, with a corresponding degree of complaint.

I shall try to point out some elements in the national situation and in certain states which may perhaps shed light on the real causes of the problem under discussion. It is not to any extent a legal question. I doubt whether any state in this country is likely to license corporations to practice medicine; hence I question the importance of this as an issue. The real problem lies deeper, below the form of organization. It concerns the actions resulting from that organization and the relationship of these actions to the actual practice of medicine. Without question, a large number of corporations do undertake various acts which, while not legally the practice of medicine, nevertheless greatly influence such practice in their communities.

Let us discuss some of these organizations. First and foremost is the hospital. As one of the earlier papers mentioned, the hospital takes various forms, both in the nature of its control and in the type of its medical organization. Consider, for instance, what might be called the typical American hospital. In a city of moderate size or a small town, it is usually an organization formed not for profit. It is under the direction sometimes of a governmental department like the city or the county or, more frequently, of a group representing the general public. The latter group may be a board of trustees, an official of a church or other religious organization or of a charitable organization. Such a hospital erects a building, provides equipment and organization, and brings in all or the major part of the local medical profession as the staff of that hospital. Thus, the typical American hospital in the medium size or small place is an open staff organization to which the majority of the physicians in the community are entitled to bring their private patients. Some of those physicians, or all of them, also serve, free of charge, the destitute patients cared for in the institution.

Is that hospital in the practice of medicine? Legally it is not, since it is not responsible for the medical care of patients, unless negligence can be shown in its selection of those who assist or take some part in a patient's care. The legal responsibility rests on the physician or the surgeon who is caring for the hospital patient in question. As a matter of fact, rarely, if ever, is the charge made that a typical open staff hospital is practicing medicine as a corporation, although such hospitals are almost all incorporated. The difficulty arises in hospitals in many of the larger cities, particularly in the East, where only a limited number of the physicians in the community are allowed the privilege of hospital practice. A hospital which limits its staff is called a closed staff institution. Almost all teaching hospitals associated with medical schools are of this type. A hospital has a closed staff when the board of trustees or the governing authority appoints a certain number of physicians to serve as the hospital staff, and permits only those physicians to bring their patients to the institution. The size of the staff may be large or small, but there is a definite selection; consequently, patients who wish to go to such a hospital are limited in their choice of the physicians or surgeons who can take care of them in such an institution. As a result of the action of that hospital certain physicians are given a differential advantage over others.

If there are other hospitals in that community, even though they are closed staff institutions, it may be that all, or, at any rate, all recognized physicians, have one hospital staff position. But in such cities as New York or Chicago, where scarcely more than 50 per cent of the licensed physicians have even one hospital staff appointment, it is quite clear that the hospital's plan of organization substantially affects the practice of medicine. Although legally this hospital is not a corporation practicing medicine, the protests which result are usually phrased against "the practice of medicine" by that hospital. Teaching hospitals are particularly likely to be objected to on this ground. State and local medical societies in particular have raised objections and have investigated some such institutions.

In fact, the medical profession in New York and in some other places has demanded that laws be passed making it obligatory that all licensed physicians be permitted membership on staffs of all governmental general hospitals. In New York, at least, so far as I know, such laws have not been passed, but the element of complaint exists and the medical profession has attempted a remedy through legislation. The reason for this objection is, undoubtedly, because the hospital corporation, through its selection of staff members, has set up a certain differential of competition between that group of physicians who are given appointments and those others who are excluded.

Another type of organization which is found frequently in this country, though not as often as that just described, is the hospital with a salaried staff which means, of course, a closed staff as well. Some industrial hospitals and some teaching hospitals are of this type. A considerable number of hospitals have at least a few salaried physicians on their staffs. Obviously, a still sharper differential of competition is created by the action of a hospital corporation in establishing a medical organization in which members of a staff, closed and, in part at least, salaried, take patients who might otherwise pay outside physicians' and surgeons' fees. The competition thus engendered is likely to result in a corresponding increase in the amount of complaint and objection raised by the affected physicians or medical organizations.

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The legal position of all these hospitals, however, remains the same. They are all nonprofit corporations; they do not practice medicine. Under ordinary circumstances they have no legal responsibility for medical practice. This responsibility rests with the individual licensed practitioners who care for the patients in the hospitals.

Study of hospitals of this type from another angle brings out a rather interesting point, namely, that complaints and objections are raised only in a minor degree, if at all, against hospitals which are limited, as all city and county hospitals are, solely to the care of destitute patients. It is against the hospital which takes paying patients that the most frequent and acute complaints are directed. To my mind it is fairly obvious that the real issue is not legal but economic. It is not the hospital's form of organization which creates the difficulty. It is the economic problem to the physician brought about by the hospital's selection of its medical staff and its acceptance of pay as well as indigent patients.

Still another type is the proprietary hospital, incorporated for profit and run as a business enterprise, of which there are perhaps 1,800 to 2,000 among the 7,000 or more hospitals in the country. These proprietary hospitals are, for the most part, small and provide only about 10 per cent of all hospital beds. It is rather notable that the majority of these organizations are under the control of physicians and that a considerable number of proprietary hospitals are not corporations at all but are owned and managed by individual physicians or by one or two or three as partnerships. They are, therefore, within the control of a medical group. Legal decisions in most states hold these proprietary hospitals, when incorporated, somewhat more fully responsible for the acts of their agents and others appointed to care for patients than the nonprofit hospitals.

Nevertheless, even in proprietary hospitals, the hospital corporation, if it is a corporation, is not practicing medicine in a legal sense. It is not licensed to practice. The legal responsibility remains with the physician, although the degree of legal responsibility of a corporation for profit is, as I have said, larger than that of a nonprofit organization.

There again, the corporate form of organization is obviously not the significant point, because precisely the same things are done by an individually owned hospital, by a hospital operated under a partnership, or by those that are corporations. Although the legal status is different, the economic effects may be quite the same.

Let us pass from the hospital to another type of organization, the clinic caring for ambulatory patients. Under this type is the private group clinic, engaging in the practice of medicine and under the control and ownership of physicians. It may be a partnership. It may be owned by one physician who employs all the other members of the group, or it may be a corporation. Although these private group clinics are in a sense carrying on the practice of medicine, legally the responsibility for the care of the patient rests on the individual physician in the usual way. There are also pay clinics, such as Cornell Clinic in New York and the Public Health Institute in Chicago, owned not by physicians but by a lay group. At Cornell this group is the board of trustees of the university; at the Public Health Institute the control is vested in its board of trustees composed of a group of well-known business men. There are many other similar organizations, but with these, as with those previously mentioned, the members of the staff and not the organization are legally responsible for the care of clinic patients.

The issues which have arisen in connection with such clinics, sometimes phrased by stating that they are corporations practicing medicine have, it seems to me, arisen not because these are corporations but because competition is established between the physicians connected with such organizations and other physicians not so connected. So far as that competition is real (it may have been exaggerated), we do have to face an economic issue, but no significant legal issue. The legal issue has already been settled. In New York, for instance, by the opinion of the attorney-general, the Cornell Clinic was held to be legal. It is a corporation but is not "practicing medicine."

In the State of California there are organizations known by such names as medical care corporations or hospital care corporations. This type of organization is owned sometimes by laymen, sometimes by physicians who contract to sell services at an agreed annual rate to individuals or groups, either for hospital services or for general medical care. Doctor Leland referred to such organizations.

In California last spring, I discussed these medical care corporations with members of the medical profession and with some of the officers of the state society, and I was struck by their views on the subject. According to them, the legal question was settled: a corporation could not practice medicine in California. These medical care corporations, of course, were not practicing medicine as such; it was the physicians employed by them, or under contract, who were practicing medicine. The attitude of the state medical society, or, at least, of the officials with whom I talked, was as follows: "We must deal with this question by setting up in the state or the county medical societies some form of machinery that will accomplish, through medical organization, the purpose for which these medical care organizations were established. For example, the county medical society might offer, through some organization scheme, similar service at an annual rate for the population of the vicinity." No plan had been started at the time of my visit; they were in the discussion stage. Since then such a plan of organization has actually been put into effect, under the auspices of the Los Angeles County Medical Association.

There again the corporate form of the organization is significant only because of its economic effects. I have not been able to observe, on the whole, that there is any great difference, so far as hospitals and clinics are concerned, as to whether the ultimate controlling group is lay or medical. In California, for example, one of the oldest and best established of these medical care corporations has been referred to as a lay body; yet I found, on inquiry, that a majority of the stock was owned by three physicians who elected the members of the board of trustees and were themselves the controlling elements in the enterprise. I am neither casting aspersions nor suggesting defenses for these physicians. I am merely pointing out the fact that we have these curious anomalies.

The question as to whether corporations practice medicine or not has been settled legally; it is important only from the economic standpoint. The pertinent question is: how far does the economic action of certain organizations, most of which are corporations, affect the practice of medicine by physicians in their respective communities? From that economic point of view such organizations present a problem which both the public and the medical profession must face; that is, that the actions of hospitals, clinics and some organizations of the industrial type, whether corporations or not, and whether owned by physicians or not, create new types of competition among physicians, different from the traditional type of competition. Such organization creates competition between groups or sections within the profession and may give certain advantages to the organized group of physicians over the physicians who are practicing individually. It is, in fact, creating a serious problem for a considerable number of the members of the medical profession in many communities. That problem must be faced by both the profession and the public.

The question is not whether this procedure or that procedure conforms to certain traditional ideas. The real question is: what shall be done about it? The most important question about any plan or procedure is whether it will work. Consider, for example, the California proposal mentioned earlier, that the county medical society organize as a group with its entire membership functioning to furnish medical care for the people of that area. I am anxious to see this plan tried effectively, although I doubt its practicability in a county with a large number of physicians, merely because coherent and effective group organization for professional service is unlikely to operate successfully with too many people involved. It is more likely to have success in an area with a small number of physicians. Let me repeat: The issue is economic and not legal. This fact must be faced. It may have been worth while to go into the legal issues, but these have become quite well closed. The economic issues, on the other hand, are very wide open.

It is important in looking ahead to realize that we are dealing with a country-wide situation which is in process of rapid change. It is rather astonishing to realize, as one of the earlier papers brought out, that the great development of industrial medicine began only in 1911. But matters move rapidly nowadays. The rate of adjustment in professional ideas and customs surely needs to keep pace with the rate of social advance. It is extremely important that the medical profession, particularly its organized groups, study these economic issues rather than waste its time on factitious legal ones. Such study would, of course, in no way interfere with continued insistence that proper policies and standards of medical practice be maintained which will insure good medical service to the patient and be in his interest. With this position, the public will, at all times, be in hearty accord.

On the other hand, the medical profession must recognize that the complexities of modern life inevitably will bring about changes in the practice of medicine, sometimes initiated from without the profession. A pertinent example is the development of industrial medicine which has resulted from legislation involving compensation for accidents. The medical profession may have to adapt itself to even greater changes which result also from economic conditions beyond its control. The desirability of such changes may be debatable, but the likelihood that they will occur is without question. For example, radical developments in our economic life have shifted our population from the farm communities of colonial times to the urban communities of today. This shift has resulted in significant changes not only in social activities but in economic relations. Inevitably the medical service of a community must adapt itself to the economic conditions and the social needs created by our increasingly mobile and congested urban life.

In such a situation, no successful studies and practical efforts can be carried out without coöperation between the profession and the public. Nothing could be more unfortunate in dealing with this question of corporate medicine than to approach it merely from the legal angle in an endeavor to continue traditional practices. The effect of present economic conditions on these practices must be recognized. Nothing is more unfortunate, to my mind, than an attitude of opposition to change and an inability to recognize that changes are, in fact, taking place which are not likely to be under the control of any professional group.

I feel very strongly that we want, and certainly I hope for, evolution and not revolution in medical matters. But certainly, it must also be recognized that evolution in medical matters must proceed more at the rate of the automobile than of the stage coach. When the tempo of American life and the rate of social advance are keyed to the automobile, it would be unfortunate if the rolling omnibus of advancing society should upset the medical bicycle.

English Viewpoints of Medical Training.—Under the caption "The Student in Irons," Dr. C. M. Wilson, dean of the Medical School of St. Mary's Hospital, has initiated a discussion in the *British Medical Journal.* Doctor Wilson complains that the medical curriculum is based on a misconception—that its purpose seems to be not to train and test habits of thought, but to collect and store a set of facts as squirrels hoard nuts on which they hibernate. These facts are to be the student's capital, and he must perforce live on it throughout his working life, for he has not been put in the way of adding to his possessions as time passes. Presently it shrinks and he must needs replace it by a stock of worldly wisdom built on a growing discernment of the ways of human nature, so that soon he is as cunning in the management of men as he is helpless in the control of their diseases. It is said that the English student is safer, more practical and more responsible at the time of graduation than the graduate of other lands. But it is also said that he has little power of growth; ten years later he stands much where he did, while his foreign contemporary is forging ahead, because his teachers never for a moment forgot that one day he must reason for himself. Further, the medical curriculum is growing at such a rate that it will soon be no longer necessary to argue that it is unsound, for it will be physically impossible.

Dr. J. A. Ryle, physician to Guy's Hospital, agrees with Doctor Wilson as to the need for reform, but thinks he is a little too doleful. The curriculum is overburdened and cannot be further extended; the student is compelled to memorize, especially in the preclinical period, a mass of facts and technicalities which are of small use to him afterward and are in large part rapidly forgotten; he is given too little opportunity for thought and observation and for self-training, so fully is his time occupied in "cramming" many subjects in order to reach a stipulated examination standard in each; he wastes many hours watching operations from afar which he will never be called on to perform or in regard to which he would do better to seek instruction in the postgraduate period. Finally, there is far too little interchange between his departments and periods of instruction, so that anatomy and physiology are less utilitarian and "applied" than might be, and even pathology is acquiring the character of a special subject instead of remaining an integral part of medicine. There is a lack of coöperation between teachers in the various periods and the various subjects. Many teachers of anatomy, physiology, and pathology instruct their students as though they too were destined to become anatomists, physiologists, and pathologists, whereas nine out of ten will be physicians. Many clinicians adopt too low a standard in the study of evidence or, forgetful of the contributions of physiology to bedside medicine, neglect their opportunities of encouraging thoughtful applications of earlier training to the everyday problems of practice.—*Journal of the American Medical Association,* April 30, 1932.

Unauthorized Practice of Medicine by Nurses.—In order to stop the increasing number of abuses, the Belgian medical federation has again called the attention of the public authorities and of the mutual life insurance companies to the practice of medicine by nurses and visiting nurses, urging them to limit strictly the interventions of nurses to their regularly assigned duties. It has likewise sent a request to the professors in the training schools for nurses and visiting nurses that they impress on their pupils that under no circumstances have they the right to perform an act of medical aid without express authorization—applicable only to the particular case in question—of the attending physician. The Belgian medical federation has requested, in an article in the *Bulletin Officiel,* that the professors, surgeons, physicians, and the authorized midwives in the hospitals, clinics, and maternities seek in their operations the assistance of physicians and refrain from extending the rôle of the attending nurses and the visiting nurses.—From the Belgian Correspondent of the *J. A. M. A.,* May, 1932.

CANCER COMMISSION OF THE C. M. A.

The Cancer Commission was brought into being by the House of Delegates of the California Medical Association to aid in the furtherance of all efforts to combat cancer. The roster of officers and the central office of the Commission to which communications may be sent is printed in this issue of California and Western Medicine (see front cover directory). This column is conducted by the Secretaries of the Commission.

Introduction

Early cancer and late cancer are two different diseases—the first curable, the second incurable. But cure of even early cancer depends upon prompt diagnosis and adequate treatment.

To develop a better agreement in the profession and a wider diffusion of knowledge of the diagnosis and adequate treatment of early cancer has been the first aim of the Cancer Commission of the California Medical Association.

During the past year committees organized by the Cancer Commission have devoted themselves to the task of collecting the most up-to-date opinion about the symptoms and onset, methods of diagnosis, and adequate treatment of early cancer in the various regions of the body. Effort has been made to bring divergent opinions upon fundamentals into harmony. Where two different opinions (chiefly as to methods of treatment) have appeared justifiable, both have been recognized.

Beginning in this number of California and Western Medicine it is planned to print from time to time the results of these committee studies as they are completed. The first report to be submitted, and which follows, is that of the Committee on Gynecologic Tumors.

* * *

REPORT OF THE GYNECOLOGIC TUMORS COMMITTEE

In no field is the importance of early diagnosis better exemplified than in that of gynecology. Cancer of the uterus is a very curable disease in the early weeks of symptoms when diagnosis is difficult—a very hopeless disease later when diagnosis is easy.

It should always be suspected when bleeding occurs between periods or when new and unusual discharge appears. The physician who allows his patient to go without prompt diagnosis may be sacrificing her life more surely than by failure to drain an appendix abscess.

The following statement is based upon replies to a questionnaire covering the field of cancer in gynecology made by members of the Gynecology Committee. Some variation in individual opinion was to be expected and did appear, but chiefly on points of minor importance. This statement attempts to express the opinion of the committee on the essentials of early cancer in the field of gynecology.

PRECANCEROUS LESIONS AND DIAGNOSIS

Cancer of the Cervix.—The common precancerous lesion is that popularly known as erosion of the cervix. Strictly there is no erosion in the sense of tissue loss, at least not at the time it usually presents itself for treatment. In its inception there probably was loss of epithelium in the infected area in the vicinity of the parturition wound or other agency which caused it, followed by growth outward and over this denuded surface of the gland bearing columnar cell epithelium of the cervical canal.

This glandular and epithelial hyperplasia called erosion merits a name more in keeping with its histopathologic character. Eden and Lockyer propose to call it proliferative adenoma of cervix. Boller of this committee suggests *circumoral cervicitis,* and the committee adopted this suggestion.

It is always inflammatory in origin usually through birth injuries in the parous and through mechanical irritations or chemical agencies in the nulliparous. A few exceptions occur in virgins, and they are possibly congenital due to failure of the columnar epithelium to recede within the external os.

Erosions occur in 75 per cent of parous women and in 25 per cent of the nulliparous.

Retention cysts are usually ascribed to attempts at healing—that is, the replacement of the columnar epithelium with normal squamous epithelium which often obliterates the gland openings. The columnar epithelium seems originally to be proliferated as more capable of coping with the inflammatory irritation. When it succeeds and the round cell irritative subepithelial infiltration recedes, return to normal takes place, the red columnar epithelium being replaced by the squamous cell variety.

Your committee stresses birth injuries as the important first event in the sequence toward cancer, *and erosions as the stepping stone to be destroyed.*

Ninety-seven per cent of the cancers of the cervix occur in parous women, all of whom have had cervix injuries as a matter of course. The other three per cent probably occur in those nulliparous women with cervix erosions of infectious origin. The evident lesson is, first, that all cervices should be examined at the time of parturition and routinely repaired; second, that all erosions in both the parous and nulliparous should be treated until replaced by normal squamous epithelium. The methods recommended by committee members are cauterization or plastic repair. The first is applicable in mild cases and can be carried out as an office procedure. Usually linear strokes with a nasal platinum loop are effective. In suspicious cases biopsy should precede treatment. Adequate cauterization of a benign lesion should result in marked improvement within a month. In the absence of such improvement, one must consider the possibility of cervical carcinoma and biopsy be taken without further delay. Plastic repair of the Sturmdorf type is recommended for the severe cases particularly at the menopausal age.

That these cervix lesions may be discovered your committee advises complete gynecologic examinations yearly after marriage and after the age of thirty in the unmarried.

This education of the public must be carried on by physicians among their clientele if the profession is going to meet its urgent obligation in this intensely important matter of cancer prevention.

Cancer of Cervix After Subtotal Hysterectomy.—Cancer of the cervix stump left at subtotal hysterectomies occurs often enough to warrant consideration. Some of our members do panhysterectomies for benign growths when the woman is parous upon the assumption that her cervix having been wounded is always vulnerable. However, if it is agreed that erosion is the great etiologic factor, it seems reasonable to leave a cervix free from that lesion and not otherwise badly damaged. To be safe it is suggested that the cervical mucosa, including that of the portio immediately surrounding the external os, be destroyed. This is satisfactorily done by cauterizing the lower part of the canal and coning out the upper part with the knife.

Biopsy of Cervix.—Any lesion of the cervix presenting ulceration, overgrowth or suspicious induration should have biopsy. In the case of lesions obviously carcinoma this may be done when treatment is begun. It is the belief of the committee that the danger of causing spread of the disease by biopsy has been overestimated.

Cancer of the Body.—*Diagnostic Curettage.* The opinion prevails in some quarters that corpus cancer is relatively rare, less than 5 per cent of the total of uterine malignancies. Members of this committee report from their experience 15 to 30 per cent. This indicates the necessity of curettage for biopsy in all irregular ideopathic bleeding, especially after the age of forty. All members subscribe to this. Treatment should be carried out preferably at the same seance if frozen section examination results in unmistakable diagnosis. In any case the least possible time should elapse between curettage and treatment.

TREATMENT

For discussion of treatment, cancers of the uterus were divided in the questionnaire into five classes, based upon the parts involved.

Class 1. Cancer limited to the cervix.
Class 2. Infiltrating uterine body or vaginal walls.
Class 3. Invading parametria.
Class 4. Involving, in addition to parametria, the iliac glands and other pelvic structures.
Class 5. Adenocarcinoma of corpus.

The committee is nearly unanimous in its opinion that radium and deep x-ray therapy is the treatment of choice in Class 1 cases, and that the Wertheim panhysterectomy if done at all should be limited to Classes 1 and 5.

In Class 5, that is, adenocarcinoma of the body, there is a feeling that panhysterectomy is sufficient without dissection of the parametria, and that if there is any pericervical infiltration the case should be handled with radium and deep x-ray. Surgery has been so successful in this class of corpus cancer that the committee is slow to advise any change to radium and x-ray; but it must be admitted that these agents are also very reliable and can be used with much confidence when surgery is contraindicated.

All cases for which surgery is selected should receive if possible full radium and x-ray radiation six weeks before surgery.

It is advised that Classes 2, 3, and 4 be treated with radium and roentgen therapy only.

It is felt that the grading of curettings has not as yet reached a position of much value in the determination of treatment, though in general it supports the treatment proposals stated above. For instance, adenocarcinoma of the corpus is more often than not of comparatively low-grade malignancy, and hence should be more amenable to surgical treatment than the squamous cell cervix cases, many of which are highly anaplastic and so more radiosensitive. It is probably not wise, however, in the present state of our knowledge, to scale down the radium dosage because of grading. The grading may be of importance in prognosis.

Scarcely any two prominent clinics in the world use exactly the same radiation technique, yet statistics from most of them using adequate dosage show about the same results. All appear to use what may be described as modifications of the methods of the Radiumhemmet in Stockholm or of Regaud in Paris. Most of the committee members favor the Stockholm procedure.

A typical Radiumhemmet treatment is as follows: Three treatments are given: the second, one week after the first, and the third three weeks after the second. Thus the course is completed in one month. Each treatment is the same, 33 to 40 milligrams radium element in the uterus and 70 milligrams in the vagina, against the cervix. The latter is screened with three millimeters of lead or its equivalent in other metal. The time of treatment is twenty-two hours, equivalent to 726 to 880 milligram hours in the uterus and 1500 milligram hours in the vagina, the entire course comprising 6500 to 7000 milligram hours.

This plan is varied in some instances, the radiation being increased if the uterine body is involved. The amount to the vaginal surface may also be increased in large tumors, total vaginal dose, however, not exceeding 4500 milligram hours.

The long-continued small dose method of Regaud has many advocates. Fifty to sixty milligrams of radium suffice for one treatment. Half the amount is placed in the uterus and the rest in or against the cervix. Screening equivalent to 1.0 millimeter of platinum is used in the uterus and 2.0 millimeters in the vagina, with the usual rubber covering. Distance is secured for the vaginal applicator by wrapping it with gauze or inserting it in the middle of an ordinary cork of the size desired. The distance helps in protecting the bladder and rectum. These applicators are removed daily for cleansing and replaced, the total time being five days or more till the desired dose of 5,000 to 10,000 milligram hours is delivered.

Experience will suggest other modifications in screening, distance, and character of applicators; but the committee believes that the use of inadequate dosage is worse than useless and that the use of the necessary large dosages requiring heavy screening offers so many dangers, of either inexact application with consequent failure to cure, or of exposure of surrounding parts and resultant irreparable damage, that radium therapy of cancer of the cervix should be attempted only by those specially trained and experienced.

Adequate external irradiation with roentgen rays should be added to complete the treatment.

One theory of the long-continued small dose method is that the cancer cells are certain to be exposed during their mitotic changes when they are believed to be most sensitive to irradiation.

Chorio-Epithelioma.—The suggestion that radium be used routinely after the removal of hydatidiform mole is not favored by the majority of the committee. However, two members use 600 to 1000 milligram hours. Bleeding recurring after removal of mole may be treated with 3000 or more milligram hours or by hysterectomy after positive biopsy findings. The Ascheim-Zondek test may be used as a check of the remaining presence of tumor-tissue in the body.

Routine curetting after abortions as a prophylactic is not advised.

The presence of bilateral ovarian cysts associated with fetal cells in the uterus would warrant radical surgery (Wertheim) according to some members. It would not warrant hysterectomy without evidence of uterine metastasis, in the opinion of others.

Ovarian Tumors — Precancerous Lesions. — Simple smooth-walled ovarian cysts may be regarded as harmless in their potentialities, but the committee is in general agreement that proliferating ovarian tumors (*i. e.,* papillary cystadenomata) should be regarded as potentially malignant. Small cystic ovaries which are not causing symptoms may be safely treated conservatively, but must be controlled by frequent examination. The insidious onset of true ovarian neoplasms demands careful check-up on the part of any woman in whom the diagnosis of ovarian "cysts" has been made since functional disturbances or pelvic symptoms are usually late in onset.

It is generally accepted that proliferating papillary serous cysts more often than pseudomucinous cysts have a tendency to bilateral ovarian involvement although the process may not be contemporaneous. In both varieties of cyst, papillary processes indicate increased growth activity, anaplasia, with a distinct tendency to malignant degeneration. The committee is unanimous in advising bilateral salpingo-oöphorectomy with hysterectomy when papillary cystadenoma involves both ovaries. When only one ovary is affected, a conservative attitude is more prevalent. Several members recommend removal of the involved ovary only. Two members advise this procedure in women under the age of thirty-five, while four members advised bilateral salpingo-oöphorectomy with hysterectomy in all cases of papillary proliferating ovarian cyst, regardless of whether or not only one ovary was apparently involved at the time of operation.

All agree that peritoneal transplants from these tumors may often be controlled by roentgen-ray therapy, and that this treatment should be employed.

Ovarian Carcinoma.—Primary ovarian cancer should be treated by a radical removal of the pelvic organs followed by deep roentgen-ray therapy to the entire abdomen. In the presence of ovarian carcinoma with peritoneal metastasis, there is a diversity of opinion as to treatment. The committee recommends that the primary tumors and uterus be removed completely and deep roentgen-ray therapy be applied to the abdomen. If complete removal of the carcinoma is impossible, the majority favor removing as much of the neoplasm as is possible and follow this up by deep roentgen-ray treatment. This incomplete operation is effective in relieving pain and pressure symptoms, and while it may be regarded as purely palliative, several apparent five-year cures following this procedure have been seen.

The occasional case of bleeding in a woman well past the menopause in whom diagnostic curettage reveals hyperplastic endometrium rather than cancer, is considered as strongly presumptive evidence of ovarian malignancy. A few consider such findings significant only in the presence of ovarian tumors, but one member has seen three cases of granulosa cell carcinoma with no enlargement of the ovaries in women past the menopause with hyperplastic endometrium and uterine hemorrhage.

The majority of the members of the committee regard leukoplakia and kraurosis vulvae as lesions which frequently terminate as vulval carcinoma, and advise treatment ranging from radiation to resection of the involved tissues. One member sounds a warning in radiating leukoplakia for, in his experience, it has always been followed by recurrence; and by damage to the blood supply may add to the danger of epitheliomatous alteration. The preponderance of opinion of the committee is against radiating these conditions.

The committee has no uniform treatment for vaginal carcinoma. Roentgen ray to regional lymph glands and radium for the local growth are advocated by some. Others favor local removal of the growth, usually by electrocautery knife with supplementary roentgen ray and radium to lymph glands. A wide resection of the carcinoma with removal of superficial and deep inguinal lymph glands and roentgen therapy are recommended by still others. Perhaps the microscopic diagnosis of a highly anaplastic type of growth would favor the use of radiation only in view of the very poor surgical results in highly malignant tumors, while the finding of a well-differentiated growth would favor surgical removal.

The chairman and secretary of this committee appreciate the coöperation of the members both of the Gynecologic Tumors Committee and of the Committee of Reference, and have endeavored to make this report reflect the majority opinion without neglecting important minority opinions.

SUMMARY

1. For cancer prevention it is urged:

(a) That cervix birth injuries be repaired immediately.

(b) That if neglected they be repaired when discovered.

(c) That all erosions in both parous and nulliparous women be treated by plastic surgery or by cautery until the areas are covered by normal squamous epithelium.

(d) That biopsy be made of suspicious cervix lesions.

2. Periodic examinations are necessary so that cervix lesions as well as incipient cancer may be brought to treatment.

3. There should be careful consideration of the condition of the cervix before deciding to leave it when doing hysterectomy for benign growth.

4. Diagnostic curettage is advised in unexplained uterine bleeding.

5. It is the experience of committee members that radiation treatments are often inadequately carried out. While two methods are partially described to convey the committee's idea of thoroughness, the Cancer Commission is not yet ready to recommend a *best treatment* in ultimate detail.

6. The committee advises salpingo-oöphorectomy with hysterectomy when papillary cystadenoma involves both ovaries.

7. Primary ovarian cancer demands radical removal of the pelvic organs followed by deep roentgen therapy of the entire abdomen.

8. Postmenopausal uterine bleeding in which diagnostic curettage reveals hyperplastic endometrium suggests ovarian malignancy.

9. Leukoplakia and kraurosis are possible precursors of cancer.

10. The committee urges care in the use of radium and suggests the inadvisability of treatment by those not well versed in its usage.

(Signed) Gynecologic Tumors Committee.

Edward N. Ewer, Chairman
Alice F. Maxwell, Secretary
Phil Boller
William E. Costolow
R. G. Craig
Clarence A. DePuy
C. A. Dukes
L. F. Eder
L. A. Emge
Newton Evans
H. K. Graham
R. R. Newell
Karl L. Schaupp
Donald G. Tollefson
Emma K. Willits

The Control of Medical Specialists.—It is too easy to set oneself up as a specialist. The public should demand a reasonable graduate training before specialization is entered on. We have been shown two ways in which this necessary training can be certified to: (*a*) by the graduate school; (*b*) by qualified boards of examiners. There is a growing opportunity for graduate school training in this country in some of our universities. So those of us who have spent most of our lives in teaching the securing of a graduate degree make a definite appeal. However, there must be another way found to train safely the majority of those who wish to secure a specialist's training. This opportunity must be offered because the university training of graduates is expensive to the university and to the candidate as well. Such opportunity must of necessity be limited to those universities with a sufficiently large endowment to provide adequate hospital and laboratory facilities and to pay a living stipend to the candidate during the training period. Certification by admittedly qualified boards of examiners will, I believe, appeal to the majority.—Dr. J. S. Rodman, Philadelphia, in *Journal of the American Medical Association,* April 30, 1932.

Etiology of Papular Urticaria (Lichen Urticatus).—Hallam believes that papular urticaria is an allergic manifestation. Since the complaint may be controlled by detaining the child in the hospital for the night only, the exciting cause is probably associated with the home sleeping arrangements. A food factor is not the exciting cause.—From the *British Journal of Dermatology and Syphilis,* London, in *Journal of the American Medical Association.*

STATE MEDICAL ASSOCIATIONS

CALIFORNIA MEDICAL ASSOCIATION*

JOSEPH M. KING..........President
GEORGE G. REINLE..........President-Elect
EMMA W. POPE..........Secretary-Treasurer

OFFICIAL NOTICE

Meeting of the Council.—The fall meeting of the Council of the California Medical Association will be held in Los Angeles, September 24, 1932.

COMPONENT COUNTY MEDICAL SOCIETIES

CONTRA COSTA COUNTY

The June meeting of the Contra Costa County Medical Society was held at the Hotel Carquinez, Richmond, on Tuesday evening, June 14.

President S. N. Weil presided, and called for the *Report of the Hospital Committee.* In the absence of Dr. U. S. Abbott, chairman of the committee, Dr. L. H. Fraser made the report. The recommendation of that committee was for standardization of the County Hospital. The following points were listed:

(a) Make it accredited for intern training;

(b) Increase the staff;

(c) Make service at the County Hospital available for other doctors; and

(d) Recommend to the Grand Jury that the Hospital should conform to the standards of the American Medical Association Council of Hospitals.

A motion was made by Doctor Fraser, seconded, and carried, making Dr. John Beard of Martinez a permanent member of that committee.

Doctor Beard reported that Doctor Dickie, director of the Department of Public Relations of the California Medical Association, suggested that the Hospital be improved in the following manner: (1) that it have interns; (2) that it have a full-time resident physician; and (3) that it have a staff appointed by the County Medical Society.

Motion was made by Dr. L. H. Fraser and seconded by Dr. John B. Beard that a resolution be drawn up by the County Medical Society endorsing the above plan for standardizing and accrediting the Contra Costa hospital.

The scientific part of the program was a symposium on *Tumors of the Breast,* presented by Dr. William Sargent, Dr. Whitfield Crane, and Dr. Paul Michael, all of Oakland.

The introductory remarks consisted of recent reports of the cancer clinic, which is held each Friday morning at Highland Hospital. Dr. Paul Michael gave a comprehensive résumé of the pathology of breast tumors; Dr. Whitfield Crane, of the diagnosis and surgical treatment; and Doctor Sargent closed the symposium by a talk on the radiological aspect. The discussion which followed the papers was sufficient evidence of the deep interest that breast tumors have for the man in general practice.

In the absence of Dr. U. S. Abbott, delegate to the state medical convention, the report on the Pasadena meeting was deferred until the meeting in September.

Doctor Weil announced that meetings in July and August will be omitted, thus following a custom which has long been established.

The next meeting will therefore be held on Tuesday, September 13, at Martinez.

The meeting was adjourned by the president, after which refreshments and an informal hour of good fellowship was enjoyed.

The meeting was attended by fifteen members and six guests: Members—Doctors Weil, Clara Spalding, J. B. Spalding, Belgum, Margaret Keser, Vestal, Rosa Powell, Hely, J. W. Bumgarner, Carpenter, Fraser, Daily, Ford, Marks, and Stauffer. Guests—Doctors William Sargent, Whitfield Crane, Paul Michael, Monteverde and Kerns, and Mr. Joint.

Clara H. Spalding, *Secretary.*

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ORANGE COUNTY

On Tuesday, July 12, a special meeting of the Orange County Medical Association and the Woman's Auxiliary was held at the Santa Ana Country Club in honor of Dr. and Mrs. Ruggles A. Cushman. Doctor Cushman had been appointed by Governor Rolph as head of the State Hospital at Ukiah, and was leaving Santa Ana almost immediately. Sixty-two members of the county society and the auxiliary attended to honor one of the society's oldest and most active members.

A delicious dinner at seven o'clock with toasts of greeting and friendship was followed by a most interesting and lively entertainment, consisting of Spanish serenaders, under the direction of Ruth Frothingham.

With the realization that the Orange County Medical Association was losing one of its most esteemed members who has taken a very active part in the affairs of both county and state medicine, the following resolutions were introduced and unanimously passed:

Whereas, The Orange County Medical Association has been favored for the past thirty-two years by having as one of its members Dr. Ruggles A. Cushman, and has found him to be a fine exponent of the practice of medicine; and

Whereas, The Honorable James Rolph, Jr., Governor of the State of California, has bestowed upon him the high honor of placing him at the head of one of California's largest medical institutions; and

Whereas, The Orange County Medical Association will feel the loss from its membership of such a valuable member, be it

Resolved, That the Orange County Medical Association hereby expresses its regrets at the departure of Doctor Cushman and wishes him every success in his new field of endeavor, and that a copy be presented to him, signed by the president and secretary.

These resolutions were presented to Doctor Cushman in a hand-tooled leather booklet with signatures of all those present. Harry G. Huffman, *Secretary.*

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SANTA BARBARA COUNTY

The regular meeting of the Santa Barbara County Medical Society was held on Monday, June 13, at St. Francis Hospital, with President Koefod presiding.

Dr. Norman J. Kilbourne of Los Angeles gave a most interesting paper on *Proctological Problems,* with special reference to injection treatment, accompanied by lantern-slide demonstrations.

Doctor Kilbourne's paper was discussed by Doctors Wilcox, Pierce, Nuzum, Thorner, and Alexander.

Dr. N. T. Ussher of Santa Barbara then followed with a very interesting paper on *Visceral Disturbances in Relation to Spinal Curvatures.*

The meeting then went into executive session.

The report of the Public Relations Committee regarding the amalgamation of the city and the county health departments was read by the chairman of the committee, Doctor Henderson. It was moved, seconded, and carried that the opinions and recommendations of this committee, as contained in their report, be adopted as the opinions and recommendations of the society and the report be incorporated in the minutes of the meeting.

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* For a complete list of general officers, of standing committees, of section officers, and of executive officers of the component county societies, see index reference on the front cover, under Miscellany.

The transfer card of Dr. J. L. Kalfus from the San Luis Obispo County Medical Society was read and upon ballot he was unanimously elected into membership.

Communication from the nurses' association was read and ordered filed.

A communication from Doctor Graves of San Francisco to Doctor Dulcy of Oakland regarding the activities of the State Public Relations Committee was read.

It was decided that the next meeting of the society would be held in September.

William H. Eaton, *Secretary.*

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SANTA CRUZ COUNTY

At the beginning of the present year our president, Dr. O. C. Marshall of Watsonville, outlined a program of meetings for the entire year. It was decided to hold monthly meetings except during the two summer months of July and August. The meetings have been in the form of dinner gatherings at the Hotel Rio del Mar, Aptos, which is centrally located from the standpoints of the Santa Cruz and Watsonville members.

The March meeting consisted mainly of a series of instructive motion pictures presented by the Petrolagar Laboratories. We found these films well produced and quite worth while. Dr. Rodney Yoell of San Francisco was present at the March meeting and addressed the society briefly on the very pertinent subject of medical economics.

Dr. Hans Barkan was present at the April meeting and discussed *Strabismus Operations—When and How to Operate.* Although this subject is limited technically to those specializing in ophthalmology, those of us in general practice profited by the discussion on the indications and end-results of surgical procedure.

In May Dr. Fred Kruse presented a complete and instructive paper on *Functional Colonic Disorders.* This was illustrated and enthusiastically received.

Dr. E. L. Gilcreest of San Francisco was with us in June and presented a paper on *Unrecognized Shoulder Affections and Injuries,* laying especial emphasis on injuries to the long head of the biceps.

At the end of the summer recess monthly meetings will be resumed. A very interesting schedule of meetings has been arranged and the society is anticipating that they will be as valuable as those held during the first part of the year.

Samuel B. Randall, *Secretary.*

CHANGES IN MEMBERSHIP

New Members (36)

Alameda County—Timothy J. Casey, Robert S. Peers, Margaret G. Zeff.

Los Angeles County—Walter Seward Aldrich, Frank M. Ende, Frederick A. Bennetts, John W. Field, F. J. Gaspard, Clarence T. Halburg, William J. Houge, E. R. Lambertson, Saunders Murray, Charles R. Price, Earl B. Ray, John Q. A. Scroggy, E. A. Sheldon.

Orange County—Melbourne Mabee, Francis H. O'Neil.

San Bernardino County—Meredith G. Beaver.

San Diego County—Howard A. Ball, Homer Clifton Oatman, Jr., Francis P. O'Hara, O. H. Warner

San Francisco County—Henrietta Duggan, Jacques P. Gray, Vaughn H. Mitchell, Alma Nemir, Richard Edward Orme, Felix L. Pearl.

San Joaquin County—E. L. Emrick.

Santa Clara County—Isidor E. LeDuc, Leon Melkonian, Earle F. Roth, Lee M. Watanabe.

Stanislaus County—Edward E. Chouret.

Ventura County—Raymond T. Francis.

Resignations (1)

Gregory N. Maximov, from San Francisco County.

In Memoriam

Beck, Emil G. Died in Oakland, July 1, 1932, age 66 years. Graduate of University of Illinois College of Medicine, Chicago, 1896. Licensed in California, 1924. Doctor Beck was a member of the Alameda County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

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Iglick, Samuel. Died July 7, 1932, age 78 years. Graduate of Columbus Medical College, Ohio, 1888. Licensed in California, 1891. Doctor Iglick was a member of the Yolo-Colusa-Glenn County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

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Johnson, Hans Coford. Died July 8, 1932, age 48 years. Graduate of University of California Medical School, San Francisco, 1908. Licensed in California, 1908. Doctor Johnson was a member of the San Francisco County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

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Magnusson, Herman Victor. Died at Bell, July 1, 1932, age 56 years. Graduate of University of Minnesota Medical School, Minneapolis, 1903. Licensed in California, 1911. Doctor Magnusson was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

OBITUARIES

Charles Paul Durney
1887-1932

Charles Paul Durney died in San Jose March 19, 1932, of accidental asphyxiation.

He was born in 1887. Following his preliminary education, he graduated from Georgetown University Medical School in 1909. He soon received appointment as government physician of the Kahuku District, Oahu, Hawaiian Islands, where he served till 1912. Because of his outstanding work he was appointed medical superintendent of the Kula Sanatorium on the island of Maui, an institution devoted to the care of tuberculosis under government supervision. From that date until 1925, under his careful untiring attention this institution grew steadily to 250 beds in size, and became a real influence in the tuberculosis field throughout the Hawaiian Islands.

In 1925, because of his growing family and his ardent desire to educate his children in the States, he left his sanatorium in the islands to become associated with Dr. George H. Evans and Dr. Philip King Brown at Alum Rock Sanatorium, San Jose.

Here he labored unselfishly in his chosen field of tuberculosis, not only in his institution but throughout the community in association with the tuberculosis clinics and Santa Clara County Tuberculosis and Health Association.

He was a member of the County Medical Society, the California Medical Association, and the American Medical Association. The California Tuberculosis Association found in him an ardent supporter. He rarely missed a meeting of the Laennec Society of Northern California. Through the San Jose Lions Club he found an outlet for further public-spirited work.

Outside of his professional duties his only thought was of his family. It was while working on his daughter's automobile that his life was prematurely brought to a close by the accidental inhalation of carbon monoxid fumes. All of his patients feel that they have lost a true friend as well as their physician, and his medical associates likewise feel such a real loss that the place left vacant cannot easily be filled.

Harold G. Trimble, M. D.

Charles S. Dickson

1849-1932

Dr. Charles S. Dickson of Riverside died on May 23, 1932, after a brief illness. Doctor Dickson was born in Illinois in 1849. He was a graduate of the Chicago Medical College, 1877. He practiced in Sandwich, Illinois until 1888, from where he came to California, settling in Winchester, later coming to Riverside upon the formation of Riverside County.

In addition to his general practice he held the office of county coroner continuously from January 1, 1899 to January 1, 1931. After retiring from the office of coroner he continued the general practice of medicine.

Doctor Dickson has been a faithful member of the Riverside County Medical Society, faithful in the attendance at the meetings and always taking an active part in the programs until his retirement from practice January 1, 1932, at which time he was elected to honorary membership in the Riverside County Medical Society.

The following resolution was presented at the last meeting of the society:

"The Riverside County Medical Society has learned with deep regret of the loss of one of its pioneer members, Dr. C. S. Dickson, who passed away on May 23, 1932. He seldom missed a meeting of the society and was ever ready to contribute of his ripe experience for the benefit of his fellow members. We will greatly miss his genial smile and kindly word as we gather for future meetings. Our sincere sympathy is extended to Mrs. Dickson and his daughter, and we share with them the grief of his passing."

THE WOMAN'S AUXILIARY TO THE CALIFORNIA MEDICAL ASSOCIATION[*]

Component County Auxiliaries

Los Angeles County.—The regular meeting of the Woman's Auxiliary to the Los Angeles County Medical Association was held in the form of a luncheon at the Virginia Hotel in Long Beach on Monday, June 20. Approximately 220 women responded to the invitation of the Long Beach members, who were hostesses on this occasion.

The friendly and cordial atmosphere which greeted the guests upon their arrival was everywhere apparent throughout the meeting.

The banquet room was decorated with the flags of the nations participating in the Olympic Games, while flowers of red, white, and blue adorned the tables.

Following the luncheon the meeting was called to order by the president, Mrs. Philip S. Doane, who presented the gavel to Mrs. B. von Wedelstaedt, chairman of the day. After a brief address of welcome Mrs. von Wedelstaedt introduced the guests of the association. Included were the wives of the city officials of Long Beach and the guest of honor, Mrs. F. E. Coulter, president of the auxiliary.

The program which followed was presented by Mrs. Katherine G. Moore and a group of guest artists, who told the story of the Olympic Games with tableau and music. Mrs. Moore is the originator of the accepted hostess plan of the tenth Olympiad. She introduced many of the members of her committee who are to serve as hostesses to delegations from different states and nations.

Mrs. Willoughby Rodman, world traveler and lecturer, gave an informative as well as entertaining address on the Olympic Games, emphasizing their historic importance in ancient times and their unlimited power in moulding the spirit of internationalism in the present day. The contagiousness of her enthusiasm was enhanced by relating her experiences in having attended three previous Olympiads.

Although it was late in the afternoon when Mrs. Doane pronounced the meeting adjourned many lingered to enjoy the intimate comradeship of friendly groups.

National Auxiliary Notes

The New Orleans national convention has come and gone. A most impressive one it was to all who attended it. Our Mrs. Walter Jackson Freeman attributes the amazing perfection of that convention particularly to two women—Mrs. McGlothlan, the president, and Mrs. Joseph Hume, general chairman of the convention committee.

The attendance was most gratifying. For obvious reasons it was not expected that the attendance would equal that at Philadelphia in 1931. There were 918 women registered at New Orleans. This number was 65 per cent of the Philadelphia registration. The American Medical Association at New Orleans registered 2,752, amounting to 34 per cent of the Philadelphia number. This is convincing proof of the auxiliary women's growing sense of responsibility for the organization.

No foreword concerning the convention this year could have given you an adequate idea of how interesting, informing and helpful the meetings proved to be or how delightful and unusual were the diversions and social features prepared by the convention committee for the time not assigned to the working program.

No other city could have provided a diversion comparable to the "Walk Through Vieux Carré with Guides," nor anything more beautiful than greeted the guests "Through Garden Gates." Nor have given the opportunity to meet in person and in her home the long-admired Dorothy Dix (Mrs. Gilmer). In "Divertissements in the Garden" the Orleans Parish Medical Society presented to the auxiliary the most appropriate interpretative dancing, followed by an hour of negro spirituals of perfect quality.

New Orleans has a bit of our own Latin-America, and shows sense and sensibility in preserving and enjoying and sharing with its visitors the hundred squares of the Vieux Carré, so beguiling in architecture, so full of vital and romantic history. Whether with "Things of yesterday" or with "The joys of today," enriching experiences were provided for the hours of leisure.

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[*] As county auxiliaries to the Woman's Auxiliary to the California Medical Association are formed, the names of their officers should be forwarded to Mrs. Louis H. Dyke, chairman of Publicity and Publications Committee, 6008 Rose Street, Oakland. Brief reports of county auxiliary meetings will be welcomed by Mrs. Dyke and must be sent to her before publication takes place in this column. For lists of state and county officers, see advertising page 6. The Council of the California Medical Association has instructed the editors to allocate one page in every issue for Woman's Auxiliary notes.

The general meeting of the auxiliary occupied the mornings of Tuesday, Wednesday, and Thursday, May 10, 11, and 12, meetings so well planned by Mrs. McGlothlan that maximum accomplishments resulted with minimum appearance of machinery.

The reports of officers and committee chairmen and of state presidents brought stimulating records of achievement and plans for the future.

All auxiliary women will be interested in the report of the Nomination Committee and the election of officers.

The roster of officers and chairmen of standing committees follows:

President, Mrs. Walter Jackson Freeman, Philadelphia, Pennsylvania.

President-Elect, Mrs. James Blake, Hopkins, Minnesota.

Recording Secretary, Mrs. Sherman S. Hesselgrave, St. Paul, Minnesota.

Corresponding Secretary, Mrs. Henry F. Page, Philadelphia, Pennsylvania.

Treasurer, Mrs. Robert W. Tomlinson, Wilmington, Delaware.

First Vice-President, Mrs. James F. Percy, Los Angeles, California.

Second Vice-President, Mrs. William R. Brooksher, Jr., Fort Smith, Arkansas.

Third Vice-President, Mrs. Arthur C. Christie, Washington, D. C.

Fourth Vice-President, Mrs. Rollo K. Packard, Chicago, Illinois.

Directors, one year:

Mrs. Arthur B. McGlothlan, St. Joseph, Missouri.

Mrs. Arthur T. McCormack, Louisville, Kentucky.

Mrs. Evarts V. De Pew, San Antonio, Texas.

Mrs. Willard Bartlett, St. Louis, Missouri.

Directors, two years:

Mrs. Joseph Hume, New Orleans, Louisiana.

Mrs. Joseph A. Pettit, Portland, Oregon.

Mrs. J. Ralston Wells, Daytona Beach, Florida.

Chairmen of Standing Committees:

Program—Mrs. Arthur B. McGlothlan, St. Joseph, Missouri.

Finance—Mrs. Joseph J. Meyer, Johnstown, Pennsylvania.

Legislative—Mrs. William Weston, Columbia, South Carolina.

Public Relations—Mrs. A. Haines Lippincott, Camden, New Jersey.

Hygeia—Mrs. Rogers N. Herbert, Nashville, Tennessee.

Revisions—Mrs. Spencer Allen Collom, Texarcana, Texas.

Press and Publicity—Mrs. Milton P. Overholser, Harrisonville, Missouri.

Printing—Mrs. J. Newton Hunsberger, Norristown, Pennsylvania.

Convention—Mrs. L. Rock Sleyster, Wauwatosa, Wisconsin.

Archives—Mrs. William Burrill Odenatt, Philadelphia, Pennsylvania.

Exhibits—Mrs. Henry R. Miner, Falls City, Nebraska.

Historian—Mrs. Allen H. Bunce, Atlanta, Georgia.

Parliamentarian—Mrs. John Alexander McCaw, Denver, Colorado.

* * *

The induction into office of president of Mrs. Walter Jackson Freeman brought to the convention her inaugural address. This address is character-revealing of our able and talented president, and carries a message that should be known to every auxiliary woman. Excerpts therefrom are here given:

"In starting the work of the year there are four points to which I wish particularly to direct your attention:

"1. *Business Methods.*—The first is your business administration, above all that bugbear of the uninitiated, that life saver of secretaries and treasurers, the fiscal year. No organization of any kind, in which the payment of dues is an obligation, can function properly without a fixed calendar date on which the treasurer's books are closed for the year, a sort of Greenwich meridian from which to reckon membership longitude. Every auxiliary as yet unprovided with this first aid to efficiency should at once establish a fiscal year.

"To facilitate the work of keeping proper membership records the use of the treasurers' receipt books has been made mandatory, and is now practically universal. To supplement these the national auxiliary is now inaugurating a uniform membership card filing system, also mandatory. The cards provide all necessary information for a period of twelve years, and county secretaries are requested to report annually on a form provided for the purpose, all changes in the membership list. A section on administration will be added to the state president's handbook, and the importance of compliance with the plans for systematizing and simplifying the work of all your officers—county, state, and national—cannot be overemphasized. I know I may count on your hearty coöperation.

"2. *Archives.*—The second point which I wish to stress is archives. Archives are the meat and drink of the historian, and the auxiliary is, I firmly believe, destined to occupy so important a place in organized medicine that all details of its founding and development are of real value. How many auxiliaries have preserved, in addition to their minutes, all the facts concerning their organization, the important preliminary correspondence, a complete membership file, a complete list of officers and committee chairmen, the names of those addressing the auxiliary, with dates and titles of their subjects, programs of all meetings, etc.? Only those who have attempted to gather such data after the lapse of only three or four years can have any idea of the chaotic condition of most early records. Most of us were careless, not realizing in those early days the great rôle that the auxiliary seems destined to play. Now, however, as the vision of the future unrolls before our eyes, and while the founders are still with us to establish the facts, let us all hasten to write them down before they are lost forever.

"The system of filing our national archives will be developed under expert professional guidance, and the national chairman will be glad to pass on this information to all needing help.

"3. *Public Relations.*—So much educational material is already in your hands that I feel sure you are all eager to bring it into play, which brings me to my third great interest—public relations. How often, I wonder, are organization chairmen met with the objection that a community is 'overorganized' and that there is nothing for the auxiliary to do? The 'overorganized' community is exactly the one in which the auxiliary is most needed and finds its greatest opportunity.

'How far that little candle throws his beams!
So shines a good deed in a naughty world.'

"These words apply perfectly to many auxiliary activities, and yet the most important work is often done through other organizations, the auxiliary members suggesting and guiding the work along lines approved by the medical society and the health officials. I cannot too strongly urge you to study, among others, the methods of the campaign for periodic health examination in Delaware, the antituberculosis radio contests in Minnesota, the three-minute health talks prepared for the Parent-Teacher Association in Florida, and the original health conferences in Georgia. In every case the auxiliary was the moving spirit, while the work was done and the bills were paid by other organizations. Obviously, the more organizations the wider the field for auxiliary influence, the greater the opportunity to contribute our mite not only to community health but to the understanding by the public of the work and the ideals of the medical profession.

"This understanding of our position and opportunity is particularly encouraging in a small community. There are a few national organizations, such as the Parent-Teacher associations, the American Legion Auxiliary, and the Federated Clubs, so widespread in their ramifications that some one of them touches the life of nearly every educated woman in the country. By her membership in one or another, and by her daily personal contacts with her friends and neighbors, she can, if she will, make the auxiliary a powerful health educator in the community.

"4. *Happiness.*—We hear much of the inevitable sacrifices of the doctor's wife, only too well known to us all, but what of her rewards? Here again the auxiliary has the answer. Not only does it offer her unrivaled opportunities for the service of humanity, but by that very service a new bond of sympathy and understanding is created between the doctor and his wife. . . ."

* * *

Out of the reports and conferences came the following approved recommendations:

A wide-awake press and publicity chairman for each auxiliary.

Close coöperation between all presidents and their respective press and publicity chairmen—county, state and national.

Each state should have its own scrapbook to be preserved for its own archives.

Auxiliary notices should leave out trivialities.

Make use of the friendly secular press.

Urge reading, assembling, and filing the past and current *American Medical Association Bulletin* letters of Mrs. Walter Jackson Freeman. Each auxiliary should have a bulletin chairman.

The press and publicity questionnaire should go out early in the fall.

The national press and publicity news letter should go to all board members.

NEVADA STATE MEDICAL ASSOCIATION

A. C. OLMSTED, Wells	President
O. HOVENDEN, McGill	President-Elect
J. H. HASTINGS, Pioche	First Vice-President
E. E. HAMER, Carson City	Second Vice-President
HORACE J. BROWN, Reno	Secretary

COMPONENT COUNTY MEDICAL SOCIETIES

WASHOE COUNTY

The regular meeting of the Washoe County Medical Society was held in the State Building, Tuesday evening, June 14.

In view of the fact that the meeting was to be addressed by Dr. Ralph A. Reynolds of San Francisco and that it would be necessary for the essayist to complete his paper for early train time, other business of the society was laid aside and Doctor Reynolds was introduced by Dr. A. R. DaCosta, vice-president.

Doctor Reynold's subject was *Recent Advances in Endocrinology.* During a lengthy and very exhaustive discussion of the subject, Doctor Reynolds brought out not only some of the history of endocrinology, but reviewed much of the up-to-date literature bearing on the subject. He also spoke of the theories that had been proposed, examined and passed up, out of the great mass of literature teeming with assurances of positive cures by the use of this, that, and the other endocrine products. Doctor Reynolds said that much of this sort of stuff would bear investigation.

There were no hard-and-fast rules which anyone could lay down for a routine prescription of endocrine products as each case requiring therapy would have to be investigated as to the conditions present, either by deficiency or excess of the individual's endocrine secretions. The same rule will apply in the prescribing of endocrine products as will apply to any other form of medication, being based upon two principles: first, the therapeutical needs of the patient; second, the physiological action of the product prescribed.

Inasmuch as the doctor will have his paper published at a future date, the paper can then be studied in detail by those who will be fortunate enough to possess a copy of the same.

Doctor Reynolds was honored by a large attendance, many physicians having come from a long distance to listen to the paper. There was considerable discussion of the question and answer type, which brought out many of the obscure points in the paper. After tendering thanks to the speaker the society adjourned.

For the months of July and August the society will hold no meetings, and it is hoped that all will enjoy a pleasant and profitable vacation.

THOMAS W. BATH, *Secretary.*

Reduction of Students.—The Bureau of Registration of Nurses gives us some interesting facts concerning the reduction of students in the accredited schools of nursing in California.

Admission of Classes.—Paradise Valley, San Bernardino County, Riverside Junior College, Mercy Hospital of Bakersfield, and St. Helena Sanitarium now admit but one class each year. Seaside Hospital in Long Beach omitted the usual January 1932 class over a period of readjustment occasioned by changes in the administrative staff of the hospital and school. Los Angeles General Hospital reduced from 100 to 80 the number of admissions planned for their January 1932 class.

Educational Requirements Raised.—Pasadena Hospital School of Nursing omitted the fall class in 1931, and provided that all students enrolled thereafter shall have completed one semester in prenursing subjects in junior college. Bishop Johnson College of Nursing omitted the usual January 1932 class and will in the future require applicants to have had one semester in prenursing subjects at junior college. The San Francisco City and County Hospital will not admit students during all of 1932, thus providing places for that growing number of students desiring advanced courses.

Junior Colleges.—At the present time eight of the fifty accredited schools of nursing in this state have definite junior college affiliations. Long Beach Junior College has signified its interest in establishing within the year such science courses as may be necessary to serve the local school of nursing. This bureau has been requested to approve a prenursing course in junior college to be a part of the three-year curriculum. Pasadena Hospital has submitted an outline of theory and practice to be given by that school over a three-year period; this to include a prenursing semester in junior college, and twenty-eight months' basic course and one advanced course.

Psychiatric Nursing.—Dr. J. N. Toner, director of institutions, has signified his willingness to make available through the state hospitals experience in psychiatric nursing for advanced and postgraduate students.

Advanced Courses.—The following advanced courses have been approved:

Santa Clara County Sanatorium — Tuberculosis nursing, four months; preventorium and contagious disease nursing, four months.

Knapp College of Nursing—Physical therapy, four months.

Bishop Johnson College of Nursing—Operating room, four months; obstetrics, four months; administration, four months.

Los Angeles County Health Department—Clinic training and field work, four months.—*Pacific Coast Journal of Nursing,* March, 1932.

MISCELLANY

Under this department are ordinarily grouped: News; Medical Economics; Correspondence; Twenty-five Years Ago column; Department of Public Health; California Board of Medical Examiners; and other columns as occasion may warrant. Items for the News column must be furnished by the fifteenth of the preceding month. For Book Reviews, see index on the front cover, under Miscellany.

NEWS

Coming Meetings—

American Medical Association, Milwaukee, Wisconsin, 1933, Olin West, M. D., 535 North Dearborn Street, Chicago, Secretary.

California Medical Association, Del Monte, April 24-27, 1933, Emma W. Pope, M. D., 450 Sutter Street, San Francisco, Secretary.

Hay-Fever Clinic.—Due to the increased demand of people sensitive to hay-fever pollens and allied diseases, the New York Polyclinic Medical School and Hospital has enlarged this department to meet their needs. Clinics are held every morning from 9:30 to 11 o'clock.

Dry-Point Portraits of Famous British Scientists.—Artist A. Watson Turnbull, 21 Sheen Road, Richmond, Surrey, England, announces a limited edition of dry-point portraits of Sir James Y. Simpson, Lord Lister, Sir James Paget, Sir Patrick Manson, Sir Arthur Keithe, and Sir Ronald Ross. Artist Turnbull invites correspondence in regard thereto.

American Congress of Physical Therapy. — Announcement is made of the eleventh annual scientific session of the American Congress of Physical Therapy, which this year will be held in New York City. The Hotel New Yorker, with its excellent convention facilities, will be the official headquarters. The convention will be conducted over the week from September 5 to 10, but officially the scientific sessions will be run on September 6, 7, 8, and 9. On September 10, clinics will be given at more than fifteen New York hospitals. Preliminary programs may be secured by addressing the American Congress of Physical Therapy, 30 North Michigan Avenue, Chicago.

Los Angeles County Public Health Exposition.—Health education in all its varied phases, centering about the progress made in public health in recent years will be the theme of the first health exposition to be held on the Pacific Coast. The project is to be designated as the Los Angeles County Public Health Exposition, and will be held on Alameda Boulevard at 141st Street, Los Angeles, August 12 to 18, under the auspices of the Los Angeles County Tuberculosis and Health Association.

The exposition is the first to be held on the Pacific Coast, and will bring together under one roof educational exhibits of health departments, school boards, recreation departments, Parent-Teacher associations, Red Cross chapters, Chambers of Commerce, and kindred organizations interested in health education. Special sections will be set aside for displays of food products, recreational facilities, medical and surgical supplies and appliances, sanitation facilities and services, dairy products and equipment, household appliances and commodities, child hygiene methods and equipment. All exhibitors must be passed by a rigid board of censorship as to their known standard of good public health practice before being accepted.

The scope of the Exposition is practically universal. There will be exhibits to interest every visitor either from a personal, professional, or business standpoint. The Exposition is timed to give educators, scientists, and health authorities from all parts of the world who will come to Los Angeles for the Olympic Games the opportunity to attend, as well as the general public interested in public health problems, prevention of disease, physical and mental hygiene. The permanent buildings and ground of the International Industrial Expositions, Ltd., have been secured for the Exposition, so that the best modern facilities can be afforded. The main exposition building is 400 feet by 180 feet, and furnishes 72,000 square feet of exhibiting space. A convention hall adjoins this on one side, and a restaurant on the other. Electricity, gas, and water are available throughout to provide for all kinds of demonstrations and displays that may be necessary. Entertainment features will be provided during the afternoons and evenings during the entire week of the Exposition.

Rehabilitation of Disabled Demands Coöperation of Varied Agencies.—How forty-four states and the District of Columbia coöperate with the Federal Government in the rehabilitation for suitable employment of those disabled through accident or disease is told in a bulletin just released by the Federal Board for Vocational Education. . . . Rehabilitation services include locating cases of disablement; making a survey of the possibilities of rehabilitating them; providing physical restoration where this is necessary or possible, including the furnishing of artificial appliances such as arms, legs, or hands; vocational training; and supervision. With the multiplicity of services involved in rehabilitation in mind, it is not difficult to understand why rehabilitation agencies must correlate their services as far as possible with related agencies if they are to render effective help. . . . "Organization and Administration of a State Program of Vocational Rehabilitation" is the title of the new bulletin of the Federal Board for Vocational Education, which may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C.

University of California Medical School.—Dr. William McKim Marriott, dean and professor of pediatrics at Washington University School of Medicine, St. Louis, Missouri, will be at the University of California Medical School as University lecturer from August 22 to September 24, 1932. Members of the medical profession are cordially invited to attend the lectures and clinics which he will give, a tentative schedule being given below:

Wednesday, August 24, 12 noon to 1 p. m.—San Francisco Hospital. Lecture to third-year class.

Friday, August 26, 9 to 10:30 a. m.—Toland Hall, University Hospital. General pediatrics rounds.

9:15 p. m.—Toland Hall, University Hospital. Pediatric staff meeting.

Saturday, August 27, 8 to 9 a. m.—Toland Hall, University Hospital. Lecture to fourth-year class.

9:30 to 10:30 a. m. — Toland Hall, University Hospital. Joint amphitheater clinics, departments of medicine and pediatrics. Subject: Clinical aspects of calcium phosphorus metabolism, with illustrative cases.

Tuesday, August 20, 8 to 9 a. m.—Cole Hall, Medical School Building. Lecture to second-year class.

Wednesday, August 31, 12 noon to 1 p. m.—San Francisco Hospital. Lecture to third-year class.

Friday, September 2, 9 to 10:30 a. m.—Toland Hall, University Hospital. General pediatric rounds.

Saturday, September 3, 8 to 9 a. m.—Toland Hall, University Hospital. Lecture to fourth-year class.
9:30 to 10:30 a. m. — Toland Hall, University Hospital. Joint amphitheater clinics, departments of medicine and pediatrics. Subject: Diabetes mellitus.

Wednesday, September 7, 12 noon to 1 p. m.—San Francisco Hospital. Lecture to third-year class.

Wednesday September 14, 11 a. m. to 12 noon—Cole Hall Medical Building. Clinico-pathological conference.

Friday, September 16, 9 to 10:30 a. m.—Toland Hall, University Hospital. General pediatrics rounds.
8:15 p. m.—Toland Hall, University Hospital. Pediatric staff meeting.

Saturday, September 17, 8 to 9 a. m.—Toland Hall, University Hospital. Lecture to fourth-year class.

Tuesday, September 20, 8 to 9 a. m.—Cole Hall, Medical School Building. Lecture to second-year class.

Wednesday, September 21, 11 a. m. to 12 noon—Cole Hall, Medical School Building. Clinico-pathological conference.

Friday, September 23, 9 to 10:30 a. m.—Toland Hall, University Hospital. General pediatric rounds.

Saturday, September 24, 8 to 9 a. m.—Toland Hall, University Hospital. Lecture to fourth-year class.

CORRESPONDENCE

Subject of Following Letter: Impostor Solicitors for American Medical Association Publications.

Richmond, Calif., July 9, 1932.

To the Editor:—Two months ago a shabby-looking gentleman calling himself Mr. Mansfield, solicited orders for American Medical Association publications from various members of the profession and chiropractors in our city. This man has since been exposed as an impostor although he presented credentials from the American Medical Association, which are fictitious.

Another slicker who also victimized some of us, purported to be representing the Hoover Company of New York and solicited orders for physicians' frocks and gowns. In each instance, of course, the money obtained from the gullible customer was pocketed by the gentleman in question.

I believe that a warning to the profession would be helpful. Mr. Mansfield apparently came from the southern part of the state, and seemed to make his headquarters in San Francisco. Thank you for your coöperation.

Yours very truly,
(Signed) L. H. Fraser.

* * *

AMERICAN MEDICAL ASSOCIATION

Chicago, July 5, 1932.

Dear Doctor Pope:—When we received your wire regarding a Mr. Simpkinson who was taking subscriptions for *The Journal of the American Medical Association* at a reduced rate, we took the matter up with the National Publishers' Association. They advise they have no record of a Protective Circulation Company and that Carlton Simpkinson was recently connected with the International Sales Company. This company discharged him a few months ago due to irregular subscription methods. The complaints they received were from persons in Illinois and Iowa.

No doubt you will hear from the National Publishers' Association in regard to the complaints that you may have received about Simpkinson.

About a year ago a Mr. H. Mansfield applied to us for a position as solicitor and after we had investigated his ability and integrity we gave him permission to solicit orders for our publications. At that time he was located in St. Louis.

In the early part of December he was requested to do no more soliciting for us. Now, several California physicians have complained that he called on them in April and May and collected amounts due for subscriptions to our publications. He neither sent us the money nor reported the transactions. Of course, this would only be natural on his part because we have asked him to do no more work for us. The fact of the matter is, however, that he has become an impostor.

We would be very thankful if you would publish a notice in your journal to the effect that Mr. H. Mansfield is not authorized to solicit and collect for subscriptions to the American Medical Association's publications and that he is an impostor.

Yours very truly,
American Medical Association.
(Signed) A. W. Stack.

Subject of Following Letter: San Francisco Ordinance Regulating the Operation, Maintenance and Licensing of Clinics.

To the Editor:—For your information I am enclosing herewith copy of an ordinance regulating the operating, maintenance and licensing of clinics in this city.

Before presenting this to the Board of Supervisors this ordinance was discussed with the various interested groups, and the San Francisco County Medical Society rendered valuable aid in furthering its passage.

With kindest personal regards, I am

Sincerely,
(Signed) J. C. Geiger, M. D.,
Director.

Editor's Note.—The ordinance is printed in this number of California and Western Medicine, page 141.

CONCERNING ANTIVIVISECTION

The editorial department of this issue of California and Western Medicine presents some comments on the protests of antivivisection proponents in San Francisco. (See page 124.)

Below are reprinted two articles which are pertinent thereto. The first is an editorial from the San Francisco *Chronicle* dealing with the situation above noted. The second is from the *British Medical Journal* of June 25, 1932, being a report of the Research Defense Society. The excerpts follow.

* * *

QUESTION IS ONE OF FACTS

Various well-meaning but misinformed persons have been trying to make trouble for City Health Officer Dr. J. C. Geiger by reason of a quite incidental recommendation that some of the dogs now uselessly asphyxiated in the pound might be usefully chloroformed in the university research laboratories. The cry is, of course, "cruelty."

This raises a question, not of argument, but of fact. If it were indeed a question of transferring these dogs from a merciful death in the pound to the tortures attributed to "vivisectors," obviously no humane person, least of all Doctor Geiger, would propose any such atrocity. Or if there were any real question of the usefulness of scientific experimentation in research on animals, the Mayor and the Board of Supervisors would not be the most expert judges of that controversy.

The trouble is with the alleged facts. Either these tales of "vivisection cruelty" are unfounded, so far as the responsible research laboratories of our recognized institutions are concerned, or else all the men to whom we have entrusted the higher education of our youth are liars. They say, on their personal knowledge, that these things are not true. If they were thus lying to the people, they would not be fit to be trusted with the custody of our youth, to say nothing of the custody of condemned dogs in the pound. The argument thus proves too much. Similarly as to the usefulness of these experiments. There are indeed those who deny that animal experimentation has contributed anything to the welfare of man. But those who say this do not include one person who is now recognized officially as an authority on the subject. There is not one professor of biology, physiology, or pathology in any university in the world—not one—who questions the usefulness, and indeed the absolute necessity of these experiments. Either the scientific institutions of the world are unanimously mistaken, in all their appointments to these positions, or else the opponents, none of whom is recognized by other scientists as a scientific authority, are in error.

With, therefore, the unanimous consensus of the informed on Doctor Geiger's side, there is no reason why the Mayor and Supervisors should be disturbed by objections from a small group of the uninformed.—San Francisco *Chronicle*, July 11, 1932.

* * *

RESEARCH DEFENSE SOCIETY

SIR ARTHUR KEITH ON THE CONFLICT BETWEEN SENTIMENT AND REASON

The annual meeting of the Research Defense Society was held at the London School of Tropical Medicine on June 15, and was made the occasion of the delivery of the Stephen Paget Memorial Lecture by Sir Arthur Keith. Lord Lamington, who presided, referred in terms of deep regret to the death of Lord Knutsford, the chairman of the society, and reminded the gathering of the great work he had done on behalf of the hospitals and of all who suffered. He announced that the Hon. Sir Arthur Stanley had consented to serve as chairman in Lord Knutsford's stead. No man was better known, especially for his activities on behalf of the British Red Cross Society, and his acceptance of the post was in itself a testimony to the work being done by the Research Defense Society. He pointed out that the society was engaged in defense of discoveries which would result, not only in the prevention or mitigation of human pain, but of animal pain also, and the true criterion to apply in connection with that terrible word "vivisection" was whether or not the activities engaged in brutalized the nature.

Sir Arthur Keith began his lecture with a reminder that in other fields of scientific research—in physics, chemistry, geology, and botany—experimental work was not impeded by considerations of sentiment. The conflict between sentiment and reason was felt acutely by medical students when they had to spend sessions in the postmortem room: some were indeed so upset by the experience and the dread of such intimate contact with the dead that they forsook the study of medicine for something less harrowing. The judge on the bench had in a measure to divest himself of his natural instincts if he was to administer the law to the criminal; while the crowd, bemoaning the end which awaited the man in the condemned cell, forgot the justice due to the woman whom the criminal had widowed and the children he had made fatherless. Among teachers, again, there was a growing feeling that the physical punishment of scholars was an unjustifiable form of cruelty. In fact, sentiment asserted itself more and more as a ruling force. The repugnance to eugenic measures of surgery sprang from sentiment rather than from reason, and the domination of sentiment was seen in a growing degree among highly civilized peoples. But if sentiment was completely to subjugate reason the ultimate result for civilization would be disaster and not progress. Man's powers of sympathy, primarily intended for the succor of his fellows, had been extended in recent times beyond the confines of the family or the tribe to include all animals which entered into friendly relations with him. Four thousand years ago, when failure to hunt involved starvation, the animals pursued had a sporting chance of escape, but under present conditions the animal grazing within enclosures had no chance of avoiding slaughter when time was ripe. In some of the civilizations of the East sentimentalism had been enthroned to such an extent that animal life in every form was accounted sacred, and the more vermin a devotee harbored between his garments and his skin the greater was his merit. To place animal life on an equality with human life meant that the proper religion was Buddhism. It was better honestly to recognize the conditions of existence, and that there was no alternative to living on the products of life.

If to nature was ascribed the endowment of man with the god-like qualities of mercy and sympathy, to what source was the vice of cruelty to be traced? Civilized man could certainly be cruel. By his spoken and written words he could outdo the worst wounds caused by the poisoned darts of savages. The power of being cruel might be latent or suppressed, but it was never missing from the gamut of human nature. What purpose could cruelty have served in the survival of the people? In the creation of man it could be assumed that nature had done nothing in vain. In the late war frightfulness was deliberately practiced to terrorize the opposing people. Cruelty had been given to man for the same reason as the sting to the wasp and the thorn to the rose bush—for protection and to make his enemies fear. Everyone wished to see thoughtless cruelty eliminated, none more so than the members of the Research Defense Society; but there seemed to exist beings in human shape who caused cruelty for the sake of the pleasure they experienced by it.

Sir Arthur Keith went on to say that it had been his privilege to know many of those who had advanced the resources of medicine by operations on anesthetized animals, and all had been tender-hearted men, who were convinced that by a present sacrifice of animal life they would make the world better for both man and beast. To watch a surgeon operating would convince anyone that if the patient had been his own child he could not have been more tender and careful. Yet he had heard such men branded as malefactors and criminals. Of all forms of cruelty there were none more diabolical than those which depended upon a wilful misinterpretation of motive. If there was need for a society to save animals from unnecessary suffering, there was also need for an organization to save scientific men from the cruelty of misrepresentation and injustice. If reason were the sole arbiter in deciding whether or not vivisection was justifiable the public jury of England would long ago have returned a verdict in favor of that society; and if reason could convince its opponents, backed by masses of evidence, they would long ago have been reduced to silence. But reason did not hold the scepter of public opinion, and it was necessary to continue to produce evidence and so enlighten the public. The Research Defense Society also had to do more than defend those who sought to relieve suffering by research, but on occasion it had to take the offensive when it saw the charitable heart of the public being misdirected. In conclusion, he made an allusion to Stephen Paget, the founder of the society, who in his "Confesso Medici" revealed some of the mental conflicts he had endured before he found his real mission in life in the defense of research as the true handmaid of medical progress. In the pursuit of the society's aims no labor was too arduous for Paget, for the great cause of the relief of suffering through research carried him triumphantly onward. Sir Arthur also paid a generous tribute to the late Lord Knutsford.

Sir Arthur Stanley, in proposing a vote of thanks to Sir Arthur Keith, said that he felt more than ever sure, after Sir Arthur's eloquent words, that the society was right in its aims.

Lord Moynihan, in seconding, said that Sir Arthur concealed under a very distinguished Scottish name and the remnants of a Scottish accent both a Hibernian mind and a Hibernian personality. He traced the steps in their lecturer's career from the time he was anatomist at the London Hospital to his present position, remarking that he had created the Department of Anthropology in the Royal College of Surgeons, and had made it one of the College's greatest achievements.—*British Medical Journal.*

CLINIC ORDINANCE OF SAN FRANCISCO*

Defining Clinics and Dispensaries and Providing for the Operation, Maintenance, and Licensing Thereof

(Code No. 17.10)

Bill No. 123, Ordinance No. 17.101, as follows:

Be it ordained by the People of the City and County of San Francisco as follows:

Section 1. For the purpose of this ordinance a dispensary or clinic or other designation of like interpretation is declared to be a person, place, establishment, corporation, institution, association or agent whose purpose it is, either independently or in connection with any other purpose, to furnish at any place or places, either without charge or for part pay or full pay, medical and/or surgical or dental treatment or advice, or medicine or apparatus, or drugless healing or manipulation, or mental and habit advice and treatment which will include psychiatric and neurological advice, mental healing and faith cures of all types, to any person or persons nonresident, or ambulatory therein, who are suffering from or afflicted with bodily and/or mental infirmities or ailments of any kind whatsoever.

None of the provisions of this ordinance shall apply to what is known as the private practice of medicine or any other curative or remedial system.

Section 2. It shall be unlawful for any person, place, establishment, corporation, institution, association or agent to open, conduct, manage or maintain any dispensary or clinic as above defined within the corporated limits of the City and County of San Francisco without first obtaining a permit and license therefor as hereinafter provided, and said license shall not be granted without a permit first being had and obtained.

Every person, firm or corporation conducting a clinic or dispensary as herein defined shall pay a license fee of six ($6) dollars per quarter.

Section 3. Any person, place, establishment, corporation, institution, association or agent desiring such license shall make written application therefor to the Director of Public Health, in conformation with the general provisions of this ordinance relating to applications for licenses, and shall truly state in said application the location or proposed location of such dispensary, the purpose for which it is or is to be opened, conducted and maintained, the accommodations or proposed accommodations for patients which it shall contain, the nature and kind of treatment given or proposed to be given therein, and the name and addresses of the person or persons making the application and the names of the person or persons who are conducting or will conduct said dispensary or clinic, stating their training and qualifications for conducting such dispensary or clinic.

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*For editorial comments, see page 123.

It shall be the duty of the Director of Public Health, upon the presentation of such application, to make or cause to be made strict inquiry into the facts set out in such application, and if upon such inquiry he shall find such dispensary or clinic is or is intended to be so constructed and equipped as to afford proper accommodations for the care of persons treated or proposed to be treated therein, and that the person or persons or intended person or persons responsible for the maintenance and conduct of said dispensary or clinic, and the person or persons actually conducting the care given to patients as defined in this ordinance fulfill the requirements defined by this ordinance, and if in the Director's opinion it is for the public's benefit, and the rules and regulations and minimum standards provided for in this ordinance are being carried out, then the Director of Public Health shall issue a permit therefor.

Section 4. It shall be the duty of the Director of Public Health to establish rules, regulations and minimum standards for the establishment, operation and management of dispensary or clinic so licensed and to approve the methods of collecting funds from the public, and regulating the purposes and objects to which said funds are

Section 5. The Director of Public Health or authorized assistant may at any or all times visit and inspect the dispensary or clinic. He may examine all matters in relation to said dispensary and clinic and ascertain how far they are conducted in compliance with the rules and regulations and minimum standards laid down by him. After due notice to a dispensary, and opportunity for it to be heard, the Director of Public Health may, if public interest demands, and for just and reasonable cause, revoke a license by written order. Such an order shall state the reason for revoking such license, and the time at which such revocation shall take effect and when, at the discretion of the Director of Public Health, the activities of the dispensary or clinic may be resumed.

Section 6. Any person, place, establishment, corporation, institution, association or agent advertising or maintaining a clinic or dispensary as defined in this ordinance without first having obtained a license therefor as provided in this ordinance or after revocation of such license under the authority conferred by this ordinance to the Director of Public Health, shall be guilty of a misdemeanor, and on conviction thereof shall be punished by a fine of not less than $10 and not more than $200 for each offense.

Section 7. Any person or persons who wilfully violate any of the provisions of this ordinance or do not carry out the rules and regulations and minimum standards laid down by the Director of Public Health shall be guilty of a misdemeanor, and on conviction thereof shall be punished by a fine of not less than $10 and not more than $200.

Section 8. Any person or persons who obtain medical or surgical care or other treatment of whatever kind from a licensed dispensary or clinic on false representation shall be guilty of a misdemeanor, and on conviction thereof shall be punished by a fine of not less than $10 and not more than $200.

Section 9. All ordinances or parts thereof in conflict herewith are hereby repealed.

* * *

ADDENDA—TWO DEFINITIONS OF A "CLINIC"

In the editorial comments concerning the San Francisco clinic ordinance, reference was made to a tentative draft of a proposed state clinic ordinance which was formulated several years ago by the Advisory Medical Board of the Health Department of the County of Los Angeles. Two of the tentative definitions which were then formulated are here printed.

* * *

Section 1. For the purpose of this act, a dispensary is defined to be any place or establishment not conducted for profit where medical or surgical advice or treatment for any ailment, deformity, disease, disorder, or injury or other physical condition of any person is furnished or where therapeutic apparatus is used on or furnished to persons not resident therein, or any place or establishment whether conducted for charitable purposes or profit and advertised, announced, conducted or maintained under the name "dispensary," "health center," "clinic" or other designation of like import.

* * *

Section 1. For the purpose of this article, a clinic or dispensary or health center or health association or organization with designation of similar import, is defined as any institution or establishment, public or private, whose purpose it is, whether independently or in connection with any other purpose, directly or indirectly, to give advice, diagnosis, or treatment bearing upon the physical or mental health of individuals nonresident therein. Provided that the offices used for private practice by a licensed practitioner of any mode of healing the sick or injured, and who is properly licensed in California; and that any offices or rooms used exclusively for healing by any form of prayer or religious practice shall not be deemed to come within the meaning of the above definition.

TWENTY-FIVE YEARS AGO*

EXCERPTS FROM OUR STATE MEDICAL JOURNAL

Vol. V, No. 8, August 1907

From some editorial notes:

The Supreme Court and the Arwine Case.— . . . One James T. Arwine brought suit against the Board of Medical Examiners, along in the latter part of last year, to compel them to issue to him a license to practice medicine in this state, the board having refused to grant such license for the reason that the credentials of preliminary and medical education of the plaintiff did not comply with the standards required under the act regulating the practice of medicine. . . .

. . . The whole case really hinged upon that provision of the law which fixes the requirement of a medical college whose diplomas may be recognized by our Board of Medical Examiners. In order that the whole matter may be clearly before you, it seems well to make some extracts from the decision of the Supreme Court, in bank, July 8, 1907. . . .

. . . The foregoing decision is signed by Angellotti and concurred in by Shaw, Sloss, Henshaw, Lorigan, and McFarland. Now let us cease from this overripe anxiety about the constitutionality of the Medical Practice Act. Every essential part of it has been pronounced constitutional. . . .

From an article on "The Intensity of the Pulmonic Sound in Mitral Incompetence" by William Watt Kerr, M. D.

. . . The statement is generally made that in cases of mitral incompetence the pulmonic sound is accentuated so long as compensation exists, and in nearly every textbook this change in the second cardiac sound is mentioned as occurring with such regularity as to constitute one of the physical signs diagnostic of mitral regurgitation. My own experience has been such as to make me doubt whether this changed second sound occurs with such frequency as to warrant us in attributing such a constant value to it. . . .

From an article on "The X-Rays as a Therapeutic Factor in Dermatology" by D. Friedlander, M. D., San Francisco.

The credit of the first attempt at utilization of the roentgen rays as a method of treatment in dermatology must be accorded to Freund of Vienna, who, in 1900, attempted to treat a case of pigmented nevus pileferous which resisted the ordinary methods of treatment. . . .

. . . Since then medical literature has been replete with favorable reports on the use of the rays in dermatology, and, at the present date, there can be no doubt as to their therapeutic efficacy.

From an article on "Suggestions on Methods of Attacking Typhoid Fever in San Francisco" by H. A. Ryfkogel, M. D., San Francisco.

It will not be necessary to enter now into a discussion of the etiology of typhoid fever since it may be considered as established, and this paper will deal very briefly with the points by which the disease is carried, the methods to be adopted in studying the present endemic in San Francisco, and finally the means that should be used to prevent the further spread of, and stamp out, the disease.

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* This column strives to mirror the work and aims of colleagues who bore the brunt of state society work some twenty-five years ago. It is hoped that such presentation will be of interest to both old and recent members.

From an article on "The Management of Placenta Previa, with a Report of Seven Cases" by A. B. Spaulding, M.D., San Francisco.

Placenta previa is not such a rare obstetrical complication, but any physician in general practice of medicine may at any hour be suddenly and most unexpectedly called upon to manage this dramatic obstetrical crisis.

From a report on "California Pure Food Commission" by George H. Kress, M.D., Secretary, Los Angeles, Cal.

The Los Angeles members of the State Pure Food Commission, under guidance of the health officer of Los Angeles, Dr. L. M. Powers, who is also the chairman of the Pure Food Committee of the Los Angeles County Medical Association, recently made two dairy inspection tours, each trip covering about seventy-five miles of territory. . . .

. . .The Pure Food Commission hopes to be able to present, some time soon, plans of dairy structures that will be both hygienic and economical in construction. . . .

The Commission spent a number of evenings in joint session with Dr. L. M. Powers, health officer of Los Angeles, who desired to have Los Angeles adopt an ordinance that would minimize the smoke nuisance. An ordinance was finally drawn up and presented to the Council, and will come up for first consideration on July 13. Its fate is hard to foretell, for the large gas and other corporations will be pitted against it.

CALIFORNIA STATE DEPARTMENT OF PUBLIC HEALTH

By Giles S. Porter, M. D.
Director

Scarlet Fever More Prevalent.—In many communities of California more cases of scarlet fever are being reported than have been reported during the past two years. Health officers who publish monthly mimeographed bulletins have commented on the increased prevalence of the disease in their respective communities. The disease is generally of a mild type, but occasionally a severe form of the disease is encountered. Even with mild cases the after effects may be serious, if not disastrous. It is highly important that adequate care be given to each case and it is of equal importance that all cases of the disease be discovered and placed under control in order that the spread of the disease may be checked. The mere fact that the disease is of a mild form often hinders progress in the control of scarlet fever.

Rat Flea May Spread Typhus Fever. — Several months ago the announcement was made by the United States Public Health Service that endemic typhus fever, which has been recognized for several years in the United States, had been shown to be transmitted by fleas.

Additional studies indicate that the rat flea is the agent that transmits this condition. This work has been proven by laboratory experiments and by field studies, all of which have been conducted by the Public Health Service. There seems to be ample evidence that endemic typhus fever is spread from rat to rat by the rat flea, and from rat to man by the same agency.

Food Faddists.—Probably the most fertile field of quackery today is that pertaining to diet. Self-styled "doctors" and "professors" would have you believe that white bread is poison; that fasting will cure all human ills; that to eat proteins and carbohydrates at the same meal is to court nutritional disaster, and similar fantastic theories. The general public is so profoundly ignorant of even the elementary facts of the science of nutrition that the food faddist with a theory and the food quack with a scheme make profitable appeals to such ignorance. Most of the advocates of freak dietary systems are shysters, but there may be some fanatics in the field who believe in their own magic. To those whose knowledge of the chemistry of food is limited to the elementary superficialities of the secondary schools, the food faddists can talk glibly of carbohydrates, proteins, fats, mineral salts and, most wonderful of all, vitamins—and his claims, preposterous but plausible, are given serious consideration. As a result, we have a veritable plague of "diet experts" who dispense vast quantities of platitudes, piffle, and pernicious misinformation on the subject of nutrition. . . .

Danger in Home Canning of Vegetables. — The present economic depression may be responsible for stimulating activity among housewives in the home canning of surplus vegetables from home gardens. The California Department of Public Health issues a warning to home canners relative to the danger to health that lies in improper sterilization of such vegetables.

The chief danger lies in the possible contraction of botulism, a highly fatal disease which may occur through eating improperly packed food products. Powerful toxins or poisons may develop in home-canned vegetables, which are not heated sufficiently nor for a long enough period of time. It is almost impossible to secure adequate heat penetration without the use of a pressure cooker. Since pressure cookers are not always available because of their cost, it has been suggested that several families, or a community, purchase such equipment for the use of groups of individuals. One pressure cooker might be made to serve fifteen or twenty families.

More cases of botulism have occurred through the use of home-canned string beans than any other product. Cases have occurred, however, through the consumption of home-canned spinach, peas, corn, asparagus, and other vegetables. The cold pack method of home canning should never be used under any circumstances. This method was advocated during the war, but because of the unfavorable results that followed the use of this method it is recommended that it be discarded entirely. If the pressure cooker is not available, the vegetables may be dehydrated. A dependable publication on the subject, "The Home Evaporator," can be obtained from the Department of Agriculture and Home Economics of the State College of Agriculture, University of California, Berkeley. This publication gives directions for building and using the evaporator for preparing fresh vegetables and fruits and for caring for them after drying. The cost of building this equipment is negligible and it is far safer to use this method of preservation than to use any home canning process except the steam pressure cooker.

At this season of the year, when home canning is starting, this warning should be heeded. Failure to accept this warning may result in needless suffering and possible death.

Jimson Weed Poisoning.—An unusual outbreak of food poisoning occurred in San Joaquin County on June 14 of this year. Fourteen out of twenty-one farm laborers employed on a ranch about three miles from Stockton were taken suddenly ill about thirty minutes after eating dinner at the ranch house. Due to weakness in the legs they collapsed immediately. There was dryness of the throat, thickness of the tongue, dizziness, blindness, dilated pupils, rapid pulse, delirium, incoherent muttering, picking at the bed clothes, and retention of urine. There was no temperature, nausea, vomiting, nor diarrhea.

At first the symptoms seemed to be those of botulism, but an intensive investigation undertaken by Dr. J. J. Sippy, health officer of San Joaquin County, and the State Department of Public Health, revealed the fact that Jimson weed had accidentally been cooked together with spinach, which had been served to the ranch workers. This weed was growing wild in the garden with the spinach and in gathering the vegetable both had been included in the "greens" which the laborers consumed. The pronounced symptoms which occurred were due to the powerful alkaloids that are found in Jimson weed, chiefly stramonium and atropin. It is understood that cattle will not eat Jimson weed. This outbreak was purely accidental in that the weed which contains these potent alkaloids was accidentaly cooked with spinach. . . .

Conference on a Plan for Maternity Care. — In coöperation with the summer session of the University of California at Berkeley, the Bureau of Child Hygiene of the California Department of Public Health will hold a conference on a plan for maternity care at the University of California, Berkeley, July 19-21, inclusive. Sessions will be held in the auditorium of the Life Sciences Building, room 2003. Exhibits in maternal care will be held in room 3570 of the Life Sciences Building. Sessions will be held each afternoon beginning at two o'clock. There will be no morning sessions.

BOARD OF MEDICAL EXAMINERS OF THE STATE OF CALIFORNIA

By Charles B. Pinkham, M. D.
Secretary-Treasurer

News Items, August, 1932

At a regular meeting of the Board of Medical Examiners, held at Native Sons Hall, San Francisco, July 11 to 14, the following actions were taken by the board:

Charles Bee Alexander, M. D., Alhambra, license revoked July 12, 1932, based on conviction of violation of Washington state banking laws.

John Theodore Kergan, M. D., Oakland, license revoked July 13, 1932, based on narcotic dereliction.

Robert H. MacLauchlan, M. D., San Francisco, license revoked July 14, 1932, for violation of probation.

Theodore H. Niemann, M. D., Los Angeles, license revoked July 14, 1932, for narcotic dereliction.

Carlos Hidalgo y Teran, license revoked July 14, 1932, based on narcotic dereliction.

* * *

The following were placed on probation after hearings based upon record of conviction or plea of guilty in federal court in connection with the Veterans' Bureau claims:

Isaac Alexander, M. D., five years' probation.
Reo B. Armitstead, M. D., one year's probation.
William E. Glaeser, M. D., one year's probation.
Edward Purcell, M. D., one year's probation.
Fred H. van Tassell, M. D., five years' probation.
John R. Vasko, M. D., three years' probation.

* * *

Probation was also granted the following:

Filiberto A. Bonaventura, M. D., narcotic violation, probation of three years, without narcotic privileges.

Maurice J. Pullman, chiropodist, three years' probation.

* * *

The following cases were continued to the October meeting:

Francis M. Collier, M. D., narcotic violation.
Eliphalet T. Pattee, M. D., alleged illegal operation.
Eugene Rinaldo, M. D.
Aubrey Staples, M. D., Veterans Bureau Fraud.
Coyle John Tracy, M. D.
Simon R. Zachariah, M. D.

* * *

Cases against the following were dismissed:

Samuel Pink Burre, M. D.
Burpee Cooper, M. D.
Silvius S. Craig, M. D.
Charles L. McVey, M. D.

"Charged with violation of the State Medical Practice Act for giving fake cancer treatments at $18 a treatment, Raymond di Silvo, thirty-nine, was arrested by Chief of Police J. M. Black yesterday morning and lodged in the city jail, pending filing of formal charges. . . . One woman stated that in an effort to impress her with his skill, the 'specialist' told her he had successfully treated a prominent San Francisco physician and received his check for $2,500. . . . Under questioning yesterday, di Silvo is said to have admitted to police to treating numerous persons for cancer. . . ." (San Jose *Mercury-Herald,* June 30, 1932). According to the Bureau of Identification of the San Jose Police Department, this man's correct name is Raymondo de Silva, a native of Porto Rico, whose occupation is given as a butcher.

"Dr. R. A. Cushman, veteran Santa Ana physician, director of the California Medical Society and formerly chairman of the Orange County Republican Central Committee, today was appointed medical superintendent of the Mendocino State Hospital at Talmadge, near Ukiah . . ." (Orange *News,* June 23, 1932).

"For violation of the Federal Narcotic Laws, Dr. Charles M. Stewart, 609 South Grand Avenue, yesterday was sentenced to two years in Leavenworth Federal Prison. The defendant had pleaded guilty. Assistant United States Attorney Balter showed to the court a grip containing cartridges, burglar tools and various kinds of weapons, all said to have been found in possession of the defendant" (Los Angeles *Times,* June 23, 1932).

"A man who gave the name of H. O. Walraven is being sought by police today on the belief he has swindled Oakland, Alameda, and Berkeley physicians in an 'insurance racket scheme.' The hunt started following a complaint from Dr. Charles Burnham, Jr., 2287 Telegraph Avenue, Berkeley, that he gave the man a $14 check when he represented himself as a salesman for a Los Angeles company delegated to select medical examiners. The man told Doctor Burnham that Dr. Donald Lum of Alameda had become an examiner under similar circumstances. Doctor Burnham called Doctor Lum and learned, he said, that Walraven was an imposter" (Alameda *Times-Star,* June 25, 1932).

"On a court showing that Dr. F. H. van Tassell, Oakland physician, convicted in the 'Veterans' Compensation racket,' is a very sick man, Federal Judge Harold Louderback, in San Francisco, permitted him to pay a fine instead of finishing the jail sentence. Van Tassell started serving a sentence of twelve months in the Alameda County jail on March 26. A similar sentence was given Dr. A. H. Staples, Oakland physician, at the same time. Doctor van Tassell paid the fine and was liberated today . . ." (Oakland *Tribune,* July 11, 1932.

Reports relate that Harry Kramer, asserted promoter of the "Metropolitan Health Bureau" and the "National Farm Health Bureau" was on May 28, 1932, charged with violation of the Medical Practice Act. Information relates, further, that at a recent hearing held before Federal Juldge Louderback the "Metropolitan Bureau" was enjoined from the use of the word "Metropolitan" in connection with their business.

J. A. Maurer is reported to have pleaded guilty in the Justice's Court of San Diego township on May 13, 1932, to a charge of violation of the Medical Practice Act, and sentenced to pay a fine of $75. (Previous entry, September 1931.)

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POSTURE DURING ANESTHESIA—ITS EFFECT*

By ADENA C. DUTTON, M. D.
San Francisco

A PATIENT undergoing an operation entrusts his life and safety to the surgeon and anesthetist. The obligation of these physicians is to protect this life as tenderly and wisely as the obstetrician cares for a new-born infant. An artist's touch and interest are needed to fulfill this trust. The conduct of the operation is made easier by having the posture as nearly correct as possible.

As the teaching of good posture in clinics and in schools is a part of preventive medicine,[1] so the assurance of good posture during anesthesia is an important means of preventing undesirable complications or dangerous sequellae. The additional relaxation secured from careful, correct posture facilitates the entire operative procedure.

THE IDEAL OPERATING TABLE

An ideal operating table is one which is constantly and in every position under perfect control. It is best to have the table top locked in any position obtainable by its mechanism, making accidents through carelessness practically impossible. The anesthetist should be familiar with all the possibilities and limitations of the adjustments. Adequate brakes are essential. Doctor Harvey,[2] in his chapter on complications in surgery, states that many of the discomforts following operations are the result of prolonged immobilization upon the operating table during anesthesia. "With a poorly padded table, the points of contact will be sore for some time afterward, and if the extremities happen to hang over the edge or are too tightly bound down by the retention strapping, stiff and tender joints and muscles are the result." It is very important that a thick, firm mattress [2, 12] be used. Having the conscious patient resting comfortably on the table is an aid to smooth induction of anesthesia. Cloth ties, one lengthwise and the other crosswise, may be used to hold the mattress in place. When these are tied securely the patient does not shift position, rendering shoulder crutches unnecessary. A guard with a curved base slips under the mattress which holds it in place. Having the guard freely movable makes it possible to obtain the correct relationship to the patient instead of placing the patient to suit the guard of limited positions.

A canvas lifter, about one yard long, may be placed on top of the mattress where it will support the heaviest part of the patient in moving him to different positions while on the table and in lifting him from the table to the ambulance. A longer lifter with poles in hems at the sides placed on the ambulance with the covering blanket over it facilitates the moving of patients and distributes the weight evenly. A death is reported to have occurred from the accidental sudden dropping back of the head of an unconscious patient, proving the need of adequate support.

OPERATIVE POSITIONS

In 1924 Doctor Palmer [3] presented to the Anesthetic Section modifications of some of the operative positions. A consideration of these and other positions in common use with changes which increase relaxation and add to the patient's comfort follows.

Dorsal Position.—The usual dorsal position with the patient flat on his back causes much strain. The pelvis is extended and the lumbar spine is elevated, causing the abdominal wall to be stretched. Thus the capacity of the abdomen is lessened and the abdominal pressure is increased. Respiration is interfered with; the diaphragm and heart, having extra work, become fatigued more readily. The abdominal muscles are used to supplement respiration by producing forced expiration.[4] It is the desire of every surgeon to manipulate the intestines as little as possible, but this cannot be accomplished if the intra-abdominal pressure is too great. The knees are in a position of hyperextension, which may result in postoperative pain (Fig. 1).

There are modifications which aid in relieving this strain. One or two pillows of proper size, according to the depth of the chest, should be placed to support the head and relax the neck. Too much flexion of the head [5] throws the base of the tongue against the pharynx and may produce stertor and obstruct breathing. Extreme extension limits the natural protective action of the epiglottis. It makes swallowing difficult or impossible and increases the possible danger of entry of mucus and foreign substances into the larynx (Fig. 2).

Tension on the abdomen can be lessened by flexing the pelvis, using a bolster under the knees and, further, by raising the thigh and leg portions of the table. An awkward angle in which to operate results if the thighs are raised beyond a practical limit, which varies, of course, with the con-

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* Read before the Anesthesiology Section of the California Medical Association at the sixtieth annual session, San Francisco, April 27-30, 1931.

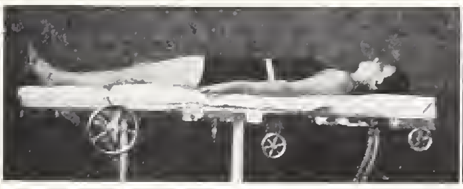
Fig. 1.—Usual dorsal position.

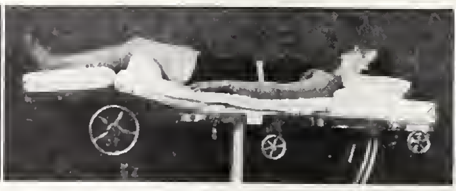
Fig. 2.—Modified dorsal position.

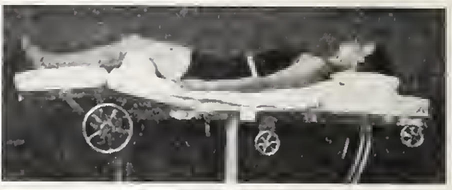
Fig. 3.—Modified dorsal position with chest pillow.

tour of the patient and the nature of the operation. In some instances, still more relaxation may be obtained by elevating the thorax with another firm pillow (Fig. 3).

The advantages of this correct dorsal position are readily seen. The anterior abdominal wall is relaxed, the abdominal muscles are not needed for forced expiration, respiration is quieter, and less fatigue results. Manipulation of the intestines is minimized, lighter anesthesia is made possible, and shorter operating time is required.

The anesthetic guard, suitable head pillow, thick mattress, cloth tie, small canvas lifter, and bolster are shown in Fig. 4.

Trendelenburg Position.—The customary Trendelenburg position (Fig. 5) increases the tension of the abdominal muscles, and all of the disturbances brought about by similar strain in the ordinary dorsal position are intensified. There is a greater tendency to prolapse of the intestines, and it is a serious disadvantage to the patient because more trauma than necessary may result. When the intestines fall toward the epigastrium and, in addition, are packed off with gauze, the function of the diaphragm may be hindered. This interference with adequate respiration may lead to cardiac failure. In his paper on "Flexion of the Pelvis in the Trendelenburg Position," Doctor Rixford [4] brought out the fact that some surgeons attempted "to overcome the disadvantages of the conventional Trendelenburg position by keeping the legs extended when the table is tilted, holding the patient from sliding by means of shoulder rests. This corrects only a small part of the trouble and has the positive disadvantage of increasing the height of the arterial blood column above the heart, giving that organ more work to do." He states: "It would seem that what the lumbar spine wants in order not to be set aching after prolonged operation is not more support, as some have averred, but more relaxation, such as is given by flexion of the pelvis."

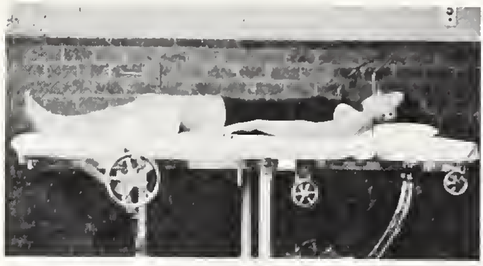
Fig. 4.—Guard, head pillow, thick mattress, cross-tie, small canvas lifter, and bolster.

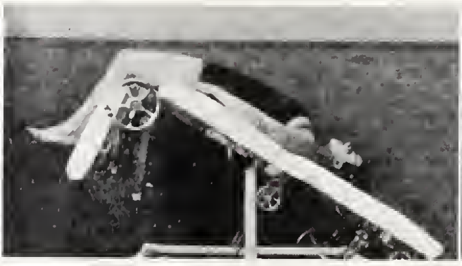
Fig. 5.—Customary Trendelenburg position.

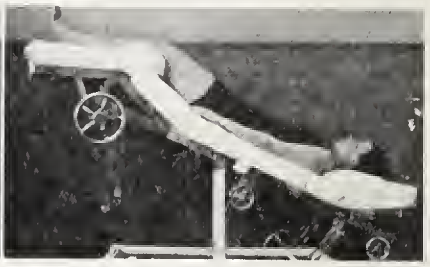
Fig. 6.—Modified Trendelenburg position.

Modified Trendelenburg Position.—As in the dorsal position, having a bolster placed under the knees and having the pelvis flexed by elevating the thighs and supporting the legs relieves the abdominal tension in the Trendelenburg position. From twenty to thirty degrees of elevation is usually sufficient. It is a common error to lower the legs as far as possible after the thighs are raised. When this is done, the abdominal muscles are again made tense.

Abdominal relaxation is not aided by the use of a back pillow though in some instances it may decrease postoperative backache (Figs. 6 and 7).

Any change of posture while the patient is under an anesthetic should not be made suddenly. this is particularly true when the Trendelenburg position is used. There is less alteration in the blood pressure when the patient is moved to the Trendelenburg position from the modified dorsal position than when the change is made directly. Shock [5] is seldom seen in patients who are operated on in this position since the blood pressure rises sufficiently to counteract any fall caused by the incidental trauma. Doctor Gatch [6] concluded

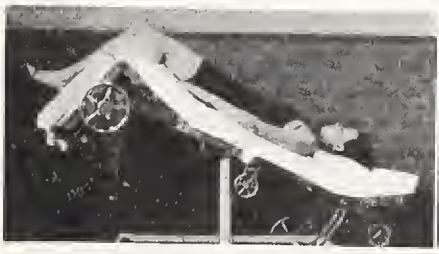
Fig. 7.—Modified Trendelenburg position with extreme lowering of legs.

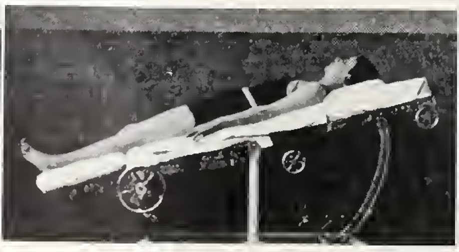
Fig. 8.—Usual reverse Trendelenburg position.

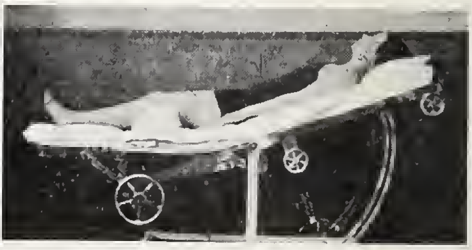
Fig. 9.—Modified reverse Trendelenburg position.

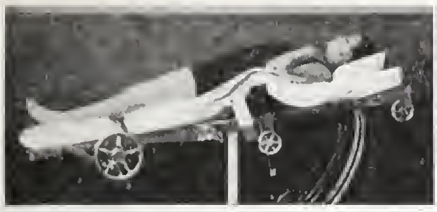

Fig. 10.—Usual position for gall-bladder operation.

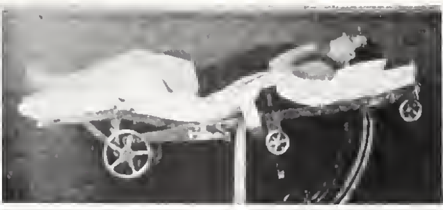

Fig. 11.—Modified position for gall-bladder operation.

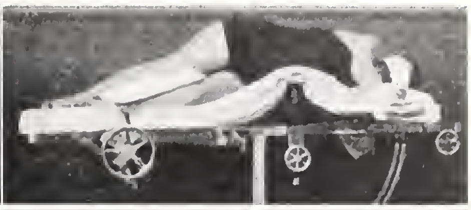

Fig. 12.—Lateral recumbent position for kidney operations.

from animal experiments on circulatory disturbances due to laparotomy, posture, and anesthesia that life is possible when the intra-abdominal pressure has been reduced to that of the atmosphere, only when the return of blood to the heart is assisted by gravity and when the animal is not required to make any exertion.

The Trendelenburg position should not be used in the presence of cyanosis or struggling and should be used with caution in a patient whose heart is diseased. This position is of great value to the anesthetist in securing postural drainage[7] in patients with considerable mucus and may be desirable in some patients after operation, especially when a degree of shock is present. The return to the horizontal position[5, 8] may lead to collapse if made suddenly.

The modified Trendelenburg position gives the pelvic exposure desired without unduly crowding the abdominal contents and abdominal pads against the diaphragm, neither embarrassing the heart nor interfering with quiet respiration. This can be accomplished without such extreme lowering of the head of the table. DaCosta[8] states that flexion of the legs often causes much stiffness and may predispose to embolism. These complications are practically eliminated by the suggested modification of the Trendelenburg position. The possibility of having this greater relaxation by using this posture frequently allows the choice of anesthetic to be the less toxic nitrous oxid instead of the more toxic ether.

The reverse Trendelenburg, the lateral recumbent, the prone and the extreme lithotomy positions present characteristic difficulties which may be overcome to some extent by certain modifications.

Reverse Trendelenburg Position.—In the reverse Trendelenburg or Fowler position, there is increased danger of aspiration unless suction facilities are at hand, since drainage by turning the head is ineffective. Doctor Miller,[9] in his tabulation of one thousand cases to determine the effect of posture on the blood pressure during operation under anesthesia found that in the reverse Trendelenburg position there was a marked tendency to decline in the systolic pressure. Doctor Gatch,[6] experimenting on animals on the peripheral theory of shock, found that "a dog when etherized till its muscles are completely relaxed will die in the head-up posture, while it will be little affected by the same if unetherized or etherized lightly." He reports that Doctor Mann,[10] in his investigation of shock concluded that experimental surgical shock is caused almost entirely by accumulation of blood in the abdominal viscera; that such an accumulation may be brought about by deep anesthesia alone, especially when associated with the head-up posture. Doctor DeCourcy,[11] in his paper on "Venous Stasis as a cause of Postoperative Embolism," states that Lockhart-Mummery[12] believes that pulmonary embolism is frequent after gynecologic and gall-bladder operations largely because of the unnatural position in which the patient is placed upon the table. His own observations show that the Fowler position is especially conducive to the later development of embolism. He finds that elevation of the pelvis and lower extremities after operations below the diaphragm prevents venous stasis and in this way reduces the danger of postoperative thrombosis and embolism. Doctor Harvey,[2] in writing of the circulatory complications in surgery, says that the treatment of thrombophlebitis, undoubtedly induced indirectly as a result of operative procedures and of embolism, is prophylactic, suggesting frequent shifting of the position of the legs following, and the avoidance of a dependent position, during operation.

It is possible to better the entire anesthetic condition and increase the relaxation in the reverse Trendelenburg position by flexing the thighs, raising the legs and giving added support with a bolster under the knees. The strain on respiration is greatly diminished (Figs. 8 and 9).

Gall-Bladder Operations.—Certainly the position for gall-bladder operations is unnatural and is likely to result in postoperative backache. The modifications suggested effect a position of less strain. It is always important that the body elevator be not raised beyond a reasonable height and lowered as soon as possible. With this aid to relaxation of better posture, deep anesthesia, which promotes venus stasis, can be avoided and an an-

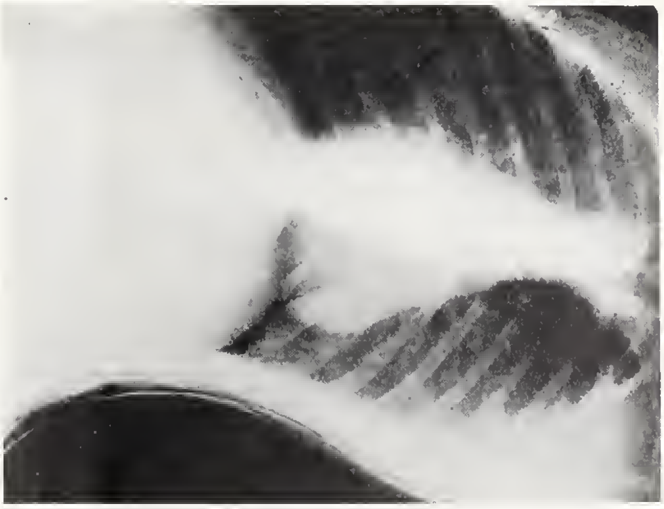

Fig. 13.—Roentgenogram showing crowding of vital organs in kidney operations position.

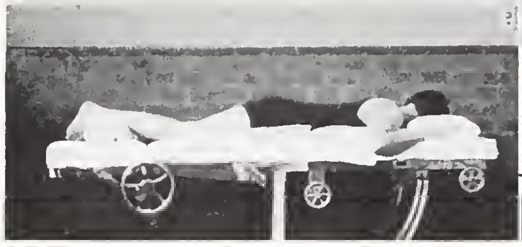

Fig. 14.—Prone position.

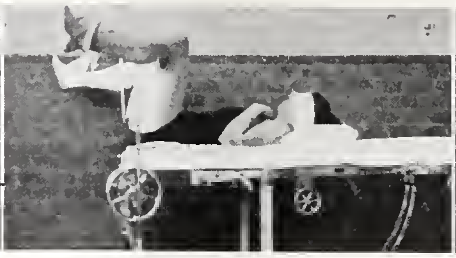

Fig. 15.—Usual lithotomy position.

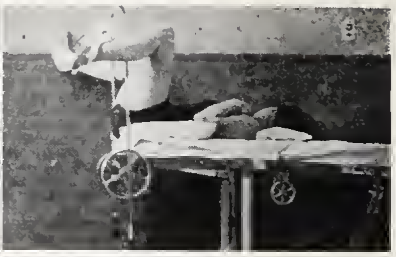

Fig. 16.—Lithotomy position modified by hip pillows.

esthetic so light as to preserve muscular tone is possible, lessening the liability of shock (Figs. 10 and 11).

Kidney Operation.—The position used in kidney operations presents added difficulties when the incision is on the right side. The patient lies on his left side, the arm supported on a board slipped under the mattress and extending the proper distance. A pillow relieves the pressure of the upper leg and serves to aid in maintaining the position. When the body elevator is raised, the heart is crowded and, because of the limitation of movement of the ribs, there is extra work for the diaphragm in breathing. The left lung is decidedly hindered in its movements, and this circulatory and respiratory embarrassment may readily lead to shock. The effect upon the circulatory system [5] of the operation may act to increase the circulatory depression, secondary to the result of posture. To overcome this the body elevator should be raised only to the point of giving adequate exposure and lowered the first minute possible (Figs. 12 and 13).

Operations on Spine.—In operations on the spine, when the patient is in the prone position, less shock follows if there is adequate breathing space. The adult patient is anesthetized on his face in a comfortable attitude, having firm hair pillows under each shoulder and each anterior prominence of the pelvis. In orthopedic surgery on children [13] it is best to induce anesthesia in a comfortable dorsal position, changing to the operative position desired after full anesthesia is obtained. In some instances a pillow under the shoulder and another under the hip on the same side, will lift the body sufficiently to make breathing easy and also give a satisfactory position. This advantage of unimpaired respiration is very real since the greatest danger in ankylosing operations of the spine is considered [14] by some to be the anesthesia. Circulatory depression would soon follow inadequate respiratory movements if prolonged unduly. Having the mouth open when any jarring of the spine occurs during the operative procedure distributes the impact. The harmful effects of the required posture are minimized by attention to these details (Fig. 14).

Lithotomy Position.—When an operation is to be performed with the patient in the lithotomy position, it is advisable that induction of the anesthetic be made in the dorsal position and full anesthesia secured before the legs are placed in the supports. A fatality,[15] due to "cardiac dilatation," has been reported when the patient was in the lithotomy position during induction. In this position the heart is considerably embarrassed by pressure of the abdominal viscera upon the diaphragm which may also interfere with respiration. The systolic blood pressure tends to increase.[9] When the operation is necessarily prolonged as in vaginal plastic work, the strain of this position is great. With the relaxation of the muscles from anesthesia,[2] unusual strain is placed upon the joint capsules and the cartilaginous structures and leads to varying degrees of postoperative discomfort.

Firm hair pillows placed at the side and a little under the hips give the thighs and legs a beneficial support, relieving the abnormal weight placed on the joints. Less postoperative pain has been reported since the use of these pillows (Figs. 15 and 16). In an effort to secure the proper operative position the patient is often brought down too far over the edge of the table. This causes considerable backache following the operation and temporary or permanent sacro-iliac damage may be severe, leading in one known instance to legal suit against a hospital (Fig. 17).

Operations on Prostate.—The position for operations on the prostate, being an extreme lithotomy position, sometimes combined with a degree of Trendelenburg, crowds the heart and lungs still more, as is shown in the roentgen ray. The shoulder braces must necessarily be well padded and securely held to prevent bruising and slipping. A slow, gentle return to the horizontal position is essential to avoid undue lowering of the patient's resistance, especially since most of these patients are aged (Figs. 18 and 19).

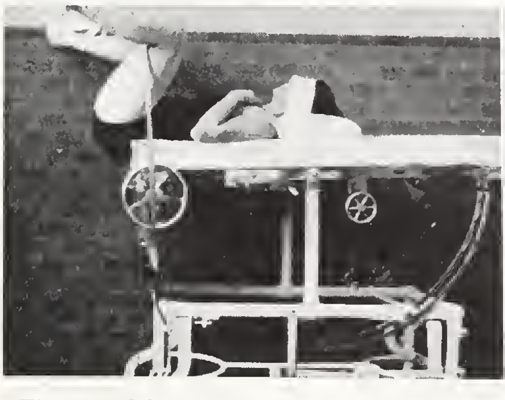

Fig. 17.—Lithotomy position, with body too far over end of table.

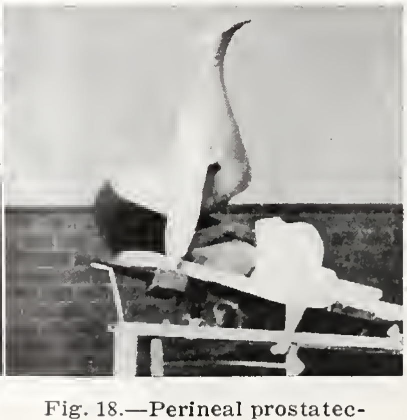

Fig. 18.—Perineal prostatectomy position.

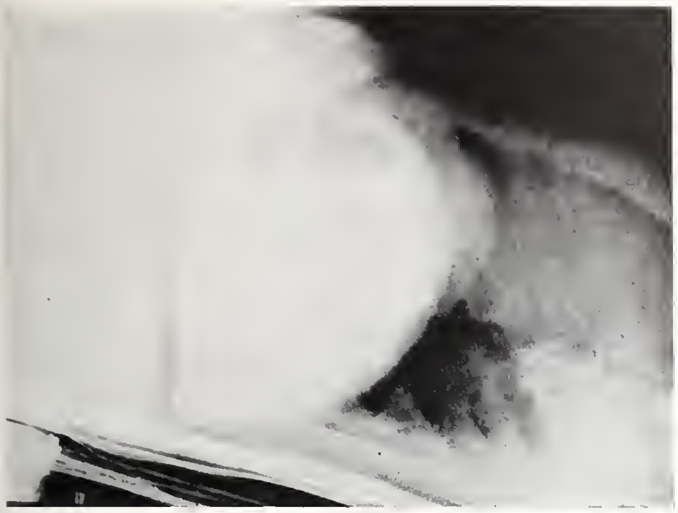

Fig. 19.—Roentgenogram, showing crowding of heart and lungs in extreme lithotomy position.

Mastoid Operations.—In preparing for the mastoid operation it is advisable to anesthetize the patient in a comfortable dorsal position with the abdominal stretch relieved by a bolster under the knees. After the patient is asleep, the head is adjusted on an oval ring sand pillow. The posterior half of the pillow is higher than the anterior half on which the face rests. A small sand pillow placed under the neck further aids in securing good exposure of the mastoid region. The head is turned well to the side, the chin to the chest, and by pulling the arms down the shoulders are less in the way. The guard[16] shown is adjustable to any height and may slip under the mattress or under the sand bags. Being a frame over which the draping sheet rests, additional light is admitted. It is out of the way and may even be used by the assistants as an arm rest. It gives adequate exposure to enable the anesthetist to watch the face (Figs. 20 and 21).

Posture in Tonsillectomy Operations.—Pictures of various positions used in tonsillectomy appear in an article by Doctor Hara[17] in the September 1930 California and Western Medicine. He reports from his bronchoscopic studies of one hundred and ten patients to determine the comparative merits of posture on aspiration that the Rose position, with the head in a much lower plane than the body, gave the greatest protection. He states that next in order are the Trendelenburg, the extreme extension, and the moderate extension. The erect posture gave the largest amount of aspiration. The dangers of aspiration may be considerably reduced with a proper combination of these methods which aims to keep the blood and secretions in the nasopharynx where they can easily be suctioned or sponged away. Naturally, less postoperative nausea and vomiting occur since there is practically no blood in the stomach. The possibility of lung complications after nose and throat operations is minimized.

DANGERS OF CHANGES OF POSTURE

There are certain dangers in change of posture in anesthetized patients because of the impairment of normal vasomotor control. When an operative position which is not comfortable for the conscious patient is required, anesthesia should be induced in a position which is comfortable. If the patient's position is altered during induction,[5] mucus or saliva may irritate the throat and the swallowing reflex be excited. Coughing, attempts to vomit, holding of the breath may soon follow. A dangerous degree of cyanosis and other asphyxial phenomena may soon appear. These unnecessary complications may be avoided if full anesthesia is obtained before any change is effected and if the breathing is watched carefully during the change. Respiratory embarrassment is more likely to occur in plethoric individuals and in those who have short, fat necks, and may be seen in them when the posture is changed, even though the anesthesia is full.

Hewitt[5] states that a change of posture made toward the finish of the anesthesia "rarely causes respiratory embarrassment of any importance." This fact makes postural drainage possible when it is necessary, especially when the anesthesia is light, as following nose and throat operations.

A rapid fall in blood pressure in abdominal operations[18] may be caused by turning the patient on his side, especially if the anesthesia has been prolonged. This fact was noted during the World War and is recorded in the American reprint of the "Official British Manual of Injuries and Diseases of War." A patient may be in good condition at the close of an abdominal operation, but a drop of blood pressure and weak pulse soon follow if another operation is attempted with the patient on his side. This lost resistance is only slowly regained. The advice given to war surgeons is that "if possible, wounds of the back should be dealt with before laparotomy, as turning the patient has no ill effect during the first half-hour of an ether anesthesia."

When it is necessary to change the position to apply a bandage or plaster dressing following an operation, light anesthesia is advisable before the trunk is elevated.

Extreme gentleness is required in making any change of posture in patients who are in some degree of shock. Raising a patient from the dorsal to the Fowler position or from the Trendelenburg to the horizontal position may have added danger unless a sufficient degree of vasomotor control, absent during anesthesia, is recovered.

Doctor Miller[9] believes that the routine use of the reverse Trendelenburg or Fowler position, following certain types of operation, is unsafe unless the patient's condition has first been proved satisfactory by blood pressure readings.

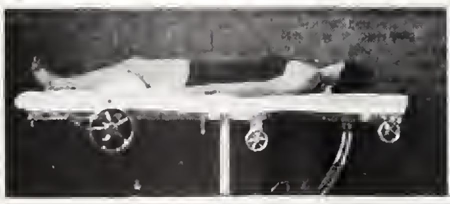

Fig. 20.—Mastoid position.

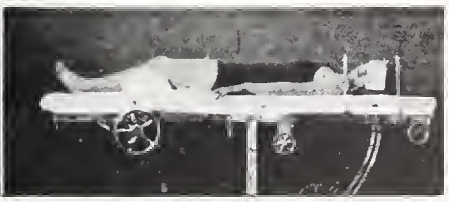

Fig. 21.—Mastoid position, showing adjustable guard.

A stretcher, hinged at the head end and provided with a worm gear to obtain any desired foot elevation, for safe transferance of patients having spinal anesthesia is described by Doctor Furniss[19] in the *Americal Journal of Surgery.* It is also valuable to provide proper drainage following nose and throat operations, in cases of shock, or used in the reverse position for pelvic drainage.

CONCLUSIONS

The patient's comfort is secured by attention to the details of improved posture before anesthesia is induced, by maintenance of a safe posture during the operation and by continuing the protection of the comfort and safety in his return to bed. The increased relaxation, the possibility of lighter anesthesia, the better postoperative condition and lessened discomfort are assets of the surgeon and anesthetist.

1955 Broadway.

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PATHOLOGIC DEPARTMENTS OF SMALL HOSPITALS*

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LABORATORY examinations started in the hospital about 1890, when the routine examination of the urine was attempted. The only other examination that was made was an occasional estimation of the hemoglobin content of the blood. The scope of this work should be contrasted with the demand made upon the laboratory by the clinician today. The hospital laboratory must comply with the demand for biochemistry, clinical bacteriology, serology, clinical chemistry, functional tests, morbid anatomy, surgical pathology, basal metabolism, and clinical microscopy. If it is to be worthy of the hospital, the laboratory must conduct teaching courses and research.

The physicians who have graduated in the last ten years lean heavily upon the laboratory for diagnoses. Older men say that the art of clinical diagnosis will soon be lost. The reaction against this teaching has been felt in all the medical schools already and the students of medicine today no longer place blind confidence in laboratory determinations but compare them with clinical evidence.

The demand for laboratory work brought into being a horde of laboratories: some good, some bad, some indifferent, and some unspeakable. At the same time there arose a class of physicians who specialized in laboratory medicine.

In 1926, about thirty-five years after laboratory work started, fourteen hundred and three laboratories were sent questionnaires by the American Medical Association. The hospital laboratories, numbering about four thousand, were omitted from the list. One thousand and eighty replied. Of these, only one hundred and sixty were able to meet the rather low standards set by the association at this time and gain admission to its approved list.

LABORATORY STANDARDS

The standards of the American Medical Association require that the director shall be a physician, graduated from an acceptable school of medicine, who has specialized in laboratory medicine for three years. The standard also includes the licensing of the physician in the state when diagnoses are made by the laboratory director. Only a minimum of equipment is necessary for approval.

The laboratory standard of the American College of Surgeons simply states the minimum requirement, which is that the laboratory be "under competent supervision." This has been interpreted as being "best done through the medium of a clinical pathologist."

California, through the efforts of Doctor Kellogg and the State Board of Health, has offered voluntary inspection and certification of laboratories, and certification is based upon the ability of the laboratory to do public health examinations.

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* Chairman's address, Pathology and Bacteriology Section of the California Medical Association at the sixty-first annual session, Pasadena, May 2-5, 1932.

These statements give a clue to the minimum requirements for the hospital laboratory. The personnel should consist of a director who is a physician trained in laboratory medicine, and such technicians as may be necessary. The equipment should be adequate.

THE DIRECTOR

The objection will at once be raised that the number of physicians practicing laboratory medicine is insufficient to fill all the hospital laboratories. As there are in the United States about one thousand hospitals of one hundred beds or more, and only about seven hundred pathologists, this objection is probably competent. The reason is further plainly indicated under the section on financing the laboratory. In 1924 nine hundred hospitals were investigated and only 80 per cent were supervised by pathologists, and of this 80 per cent only one-half gave full time to the laboratory.

TRAINING OF DIRECTORS

The director of the department of pathology should be a graduate physician. He should have had an adequate intern training with sufficient clinical experience to enable him to be sympathetic with the problems of the clinician. He should have had training in laboratory procedures and their application so that he is able to judge the value of any certain procedure and evaluate the tests in terms of the patient.

Lastly, and here is where the emphasis should lie, the director should have an adequate training in morbid anatomy, necropsy technique, and gross and microscopic pathology. The keystone of the pathologist's usefulness to the hospital is his knowledge of pathology and morbid anatomy. A study of this phase of the subject by Kenneth Lynch of Texas has shown that this knowledge can be obtained only by study in a large laboratory for a minimum of three years. It has been estimated that the knowledge gained in three years will be sufficient to enable him to deal successfully with about 90 per cent of the pathologic material coming to the laboratory. The remaining 10 per cent, consisting of the rare or little known lesions will require at least a further study of five to ten years. This statement of course implies a constant flow of material. The minimum would be the performance of two to three hundred necropsies and the examination and interpretation of about three thousand surgical specimens. And further, the consensus of opinion is that such knowledge cannot be self-gained but must be acquired through work in a laboratory under adequate, skillful supervision. Great stress is laid upon this training because of the dire results that follow the misinterpretation of histologic lesions. Breasts have been sacrificed, limbs have been amputated, and much unnecessary radiotherapy given because of mistaken interpretations based on a small fragment of tissues and made by a man inexperienced in histologic diagnosis. It is anticipated that these mistakes may become more numerous as the campaigns of the organizations fighting cancer will bring patients to surgeons earlier, and with such early lesions a wider knowledge of histopathology is necessary for correct interpretation.

DUTIES OF THE DIRECTOR

The director is not a technician. He must be familiar with the tests and have performed a sufficient number to teach the technique and point out the pitfalls. But he cannot be expected to do technical work except along certain lines. These are necropsies, tissue diagnoses, and tests calling for knowledge and skill over and above mere technical skill.

The director is a consultant. He is the head of a department which ranks equal to the departments of medicine and surgery. Every organization concerned with the problem of laboratory work, which includes the American Medical Association, the American College of Surgeons, the American Society of Pathologists and Bacteriologists, and the American Society of Clinical Pathologists, insists that the proper status of the head of the department of pathology be that of a department head and consultant. He is a member of the staff of the hospital and a valuable member of the medical board of the hospital. Access to patients should be his right as a matter of course. The director supervises the work of the technicians who do the work in blood chemistry, bacteriology, hematology, parasitology, serology, basal metabolic rate determinations, and so forth. The records and the diagnosis files must be supervised by him.

The director should attend all staff meetings and should hold the regular clinic-pathologic conferences, which should preferably be separated from the staff business meetings. The scientific spirit should be inculcated by him in all the personnel. Appropriate research problems should be suggested by him and all possible aid given to the workers, especially as regards work space, supplies, consultation and encouragement. New laboratory procedures and new methods of interpretation should be brought to the attention of the clinicians by the director.

The director must have proper control over the budget of his department and absolute control over its personnel. He must coördinate his department to the general policy of his hospital and show the utmost tact, diplomacy, and consideration in his dealing with physicians, nurses, and executives. The director should, if possible, associate himself with a teaching institution.

FINANCING DEPARTMENT

The chief cause of the lack of an adequate number of pathologists is the relatively poor remuneration received by them. Unless a graduate has a certain predilection for the work, it is useless to ask him to spend five to eight years in preparation for his life work and tell him that his ultimate income will be about $6000 a year. He naturally compares this income with that of his friends in internal medicine, surgery, or one of the other special branches. He then sees that with the same or less training and time spent, he can probably make much more than this sum in one of these branches. These facts have made it almost impossible to keep good men in pathology. They may start training, but soon abandon it when the urge for things that money can buy comes upon them.

The financing of the department from the standpoint of the hospital authorities has not been settled to anyone's satisfaction. The scheme of a flat rate per patient loads the laboratory with a large amount of seemingly unnecessary work. The individual charge system puts a burden on the patient's pocketbook that may be unbearable.

The department of pathology should be self-supporting, paying the director, the technicians, the supply bill, the light, heat, and rent for occupied space. Probably the fairest way is to make a total of all expenses and pro rate the sum and add it to the patient's daily rate. The director should not allow the profits gained by his department to be used to pay the debts of another department. The profit should be used as a research fund.

Routine examinations can be briefly alluded to at this point. It is an axiom that a urinalysis, a blood count and probably a Wassermann test should be done on every patient as a routine measure. But further demands may be made. The pediatric department will probably insist upon a throat culture and a vaginal smear. The surgeon will insist on a blood coagulation time done upon patients having tonsils and adenoids removed. The American College of Surgeons compels the examination of all tissues removed at operation and the filing of a histologic report with the patient's chart. The surgeons will probably wish cultures and smears made of all exudates in their patients.

A flat fee may be charged the patient which will cover the expense of these routine examinations. Beyond this, special and extra examinations may be charged at the prevailing rates. Proper provision should be made for laboratory work on patients requiring repeated examinations. The remunerations of the pathologist should be adequate for a man of his training and ability. It should be based upon the income of the physicians of his standing and ability who are working in the community outside of the hospital. He should be allowed to do as much work for the doctors who use the hospital as time will permit. Frank competition with pathologists having private laboratories should be avoided.

It is strongly urged that no attempt be made to use the department of pathology to reimburse the hospital for a deficit incurred in another department. This is not conducive to good feeling or to a tranquil mind, which must be a part of the surroundings of the department head.

The only ethical way to pay the pathologist, in view of the fact that a physician cannot ethically practice medicine for a corporation, would be the subtraction of all expenses from the gross income and turning the net income over to the pathologist. This would give him an incentive for increasing the income and keeping down all necessary expenses. The fees could be adjusted so that a reasonable sum would come in.

Small hospitals may object to this plan as being too expensive. But it is perfectly feasible to have several hospitals unite and employ competent pathologists to supervise all the laboratories and have office hours at each hospital for consultation. In these days of rapid transit and communication it is not even necessary that the hospitals be in the same small town. A distance of fifty miles is not as great today as two miles was in the days of the horse and carriage. If the pathologists were given a small budget at each hospital and were allowed to do outside work for the doctors in the community and were employed as health laboratory officers, the remuneration should be fairly adequate. Small units of this kind could be used by the few universities who are endeavoring to turn out competent pathologists as a training and placement unit in their training scheme. Small communities may by this plan have the services of a competent pathologist at a cost well within their financial ability.

TECHNICIANS

Technicians are as necessary to the pathologists as an operating-room nurse is to the surgeon. They do not make interpretations but do certain technical procedures which are used in interpreting the clinical signs and symptoms.

A school for technicians should be established in each department of pathology. It is a wonderful aid to the pathologist in keeping up to date to associate himself with keen young minds who are forever inquiring into the "why" of things.

The students of this technical course should attend no less than eighteen months or two years. They should rotate through the various departments for their practical work and should receive didactic and personal instruction from the pathologist and senior technicians. A standard course of study is being prepared by the American Society of Clinical Pathologists.

The technicians should be well chosen and competent. They should know their place and not attempt to make diagnoses. They should register with the American Society of Clinical Pathologists and obtain certificates which testify to their qualifications. The California Board of Health also issues certificates upon examination.

SUMMARY

A small hospital, if it will, may have an adequate pathologic department. The qualifications of a properly trained pathologist are outlined and emphasis is laid on the necessity for training in morbid gross and microscopic anatomy. The duties of the hospital pathologist are given. He should be the incarnation of the spirit of scientific medicine and should keep alive the spirit of research in the hospital. The proper financing of the department of pathology is discussed. The need of a school for technicians is briefly set forth. Lastly a plan is suggested whereby several small hospitals in a community may band together and obtain the services of a competent pathologist at a cost which would not be a burden on any one hospital.

450 Sutter Street.

THE KAHN PRECIPITATION TEST*

COMPARED WITH THE KOLMER MODIFICATION OF THE WASSERMANN TEST IN UNTREATED PRIMARY DARKFIELD POSITIVE SERONEGATIVE SYPHILIS

By Stanley O. Chambers, M. D.
Los Angeles

Discussion *by Newton Evans, M. D., Los Angeles; W. T. Cummins, M. D., San Francisco; H. A. Wyckoff, M. D., San Francisco.*

A TECHNICAL performance, regardless of its application, must of necessity depend for its interpretation in part upon a variable personal equation. The following statistical data is presented with this factor firmly in mind and in no way are the results interpreted as conclusive or final. Rather a repetition of this investigation is strongly urged that comparative figures may be offered to corroborate what appears to be an important serologic variation.

EARLY DIAGNOSIS IMPORTANT

We have come to appreciate that the early diagnosis and early treatment of syphilis are of paramount importance and that a matter of days or hours may affect the ultimate possibility of clinical and serologic cure in definite percentage figures. This fact was emphasized recently by Chargin and Stone,[1] who quoted 90 per cent of clinical and serological cures for seronegative primary syphilis and 61 per cent for the seropositive group. A difference of about 30 per cent. If the difference between 90 and 61 per cent can represent failure in the cure of the disease through inability to arrive at an early diagnosis, surely then any effort to further simplify or interpret methods should indeed be acceptable.

Two of the most widely accepted serologic methods for the interpretation of the disease are the Kolmer modification of the Wassermann test and the Kahn precipitation test. This communication deals with a comparison of these two tests in primary darkfield positive seronegative syphilis. The increasing dependence placed upon this latter test prompted the investigation. If the previous figures are correct the constant tendency of one test to lag behind the other would obviously affect early diagnosis and in turn lower curative opportunities.

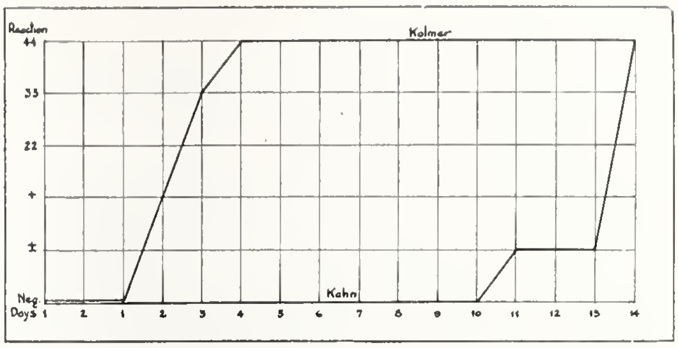

Fig. 2.—Comparison showing the longest time relation.

HOW CLINICAL MATERIAL WAS SEGREGATED

Patients presenting primary lesions of syphilis were isolated following darkfield identification of the disease on two or more examinations. Blood samples were drawn daily, divided into six tubes, two tubes sent to each of three laboratories. All specimens were tested in our own laboratory, whereas specimens to the check laboratories were divided. This offered a variety of techniques which allowed for a more accurate interpretation of results.

The daily sera of twenty-five patients with primary darkfield positive seronegative syphilis were examined by the two methods and compared.

INTERPRETATION OF ILLUSTRATIONS

Figure 1 represents an average comparison of the twenty-five cases. The Kolmer preceded the Kahn in the first evidence of positivity by five days. The reaction here ranged from zero to 25 per cent inhibition or precipitation. The diagnostic value of such reactions is obviously not dependable, further serologic evidence of syphilis usually being required before the presence of the disease can be assumed. The Kolmer, however, preceded the Kahn at the level of 50 per cent inhibition and precipitation by five days and for total inhibition and precipitation by six days.

Figure 2 shows a single case which evidenced the greatest time intervals between positive reactions. Here the Kolmer preceded the Kahn in 1 to 25 per cent inhibition and precipitation by ten days, 50 per cent inhibition and precipitation by fourteen days, and total inhibition and precipitation by thirteen days.

Figure 3 represents an isolated example of the shortest time interval between positive reactions.

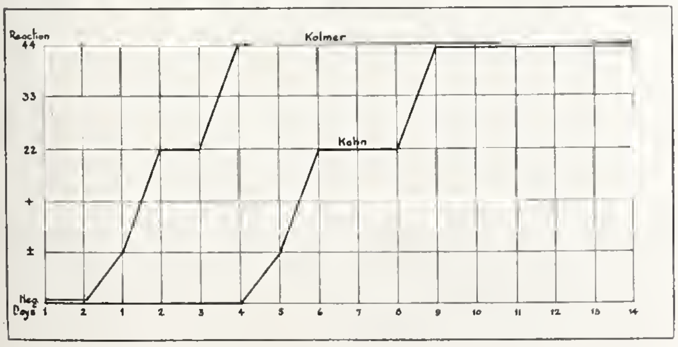

Fig. 1.—Average comparison.

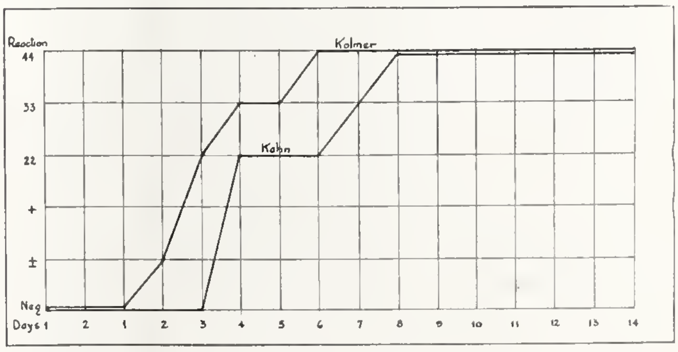

Fig. 3.—Comparison showing the shortest time relation.

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* From the Los Angeles County General Hospital.

*Read before the Pathology and Bacteriology Section of the California Medical Association at the sixtieth annual session, San Francisco, April 27-30, 1931.

Here the Kolmer preceded the Kahn in 1 to 25 per cent inhibition and precipitation by two days, 50 per cent by one day, and total precipitation and inhibition by three days.

COMMENTS

There appeared to be a consistent relation between the two tests and the duration of infection. Those patients having a duration of infection of three weeks evidenced the least variation, while those with infections of eight weeks' duration showed the greatest variation (Figure 4). The duration of infection up to the first evidence of serologic positivity ranged from eighteen to fifty-seven days, with an average of forty-one days.

Secondary cutaneous manifestations developed in 60 per cent of the cases. It is interesting to note that in 88 per cent of this group the secondary lesions appeared almost simultaneously with the strongly positive Kahn. The remaining 12 per cent of cases developed secondary cutaneous lesions two to four days after the appearance of the strongly positive Kahn.

The obvious question in such a serologic investigation centers about the sensitivity of the two tests. It is highly possible to have a hypersensitive Kolmer and a less sensitive Kahn, which combination could easily result in the data just presented.† One of the two laboratories checking the sera agreed in the Kolmer, but evidenced a less sensitive Kahn. The third laboratory evidenced both a less sensitive Kolmer and a less sensitive Kahn. Positivity appeared in both tests four to five days later than our own. In both checks the Kahn test was less sensitive than our own, the Kolmer equal in one and less sensitive in the other.

That either the Kolmer or Kahn tests were oversensitive would appear improbable, for periods of absolute negativity preceded all of the studied cases by three to eighteen days and in no instance were humps (positive, then back to negative) noted prior to the ascending and consistent positivity. The tests appeared progressively positive from day to day.

Approximately one hundred and fifty blood samples are tested from the department of dermatology and syphilology each month. All patients, referred to the department in the event of a positive blood Wassermann reaction identified by routine serologic tests in the hospital, were in every instance corroborated by repeated positive serology, clinical evidence, and previous histories of infection with subsequent treatment for syphilis.

The comparison of the Kolmer and Kahn tests on all blood samples so tested in the hospital was reported by Evans in 1929. He recorded complete agreement in 96.71 per cent, relative agreement in 1.18 per cent, and complete disagreement in 2.1 per cent. A similar comparison in the same laboratory from 1929 to the present shows complete agreement in 96.25 per cent, relative agreement in 2.25 per cent, and disagreement in 1.5 per cent. These figures agree quite accurately with most previous authors and help to establish our serological procedures as probably accurate. The high percentage of agreement is indeed favorable in further establishing the accuracy of our present comparative figures.

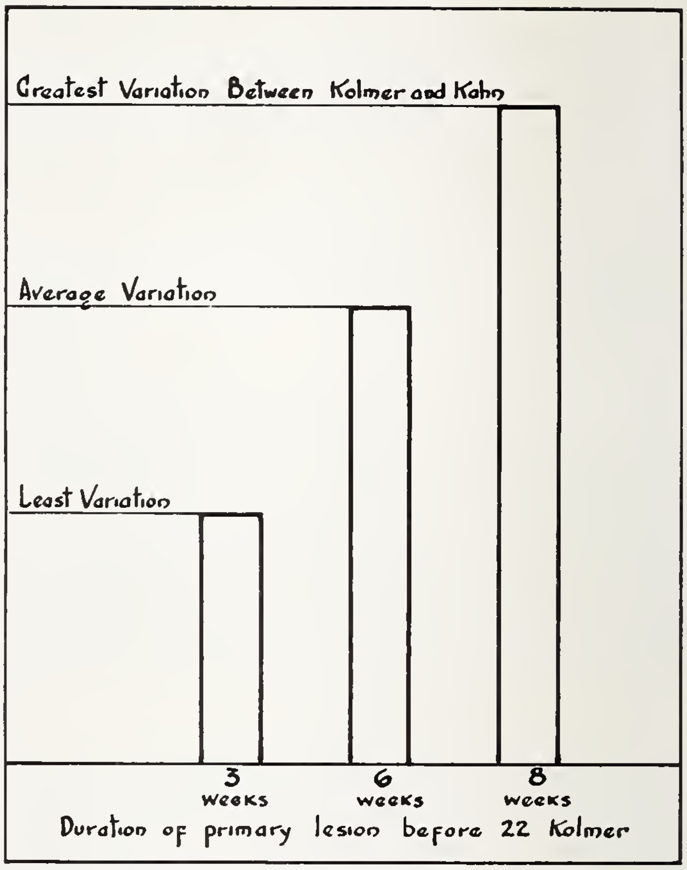

Fig. 4.—Showing relation between the variation of tests and the duration of infection.

A third and most important factor in the explanation of possible variation is the Kahn antigen. During the investigation three different manufactured antigens were tested. A marked difference in sensitivity was apparent although all were supposedly standardized. Two of the antigens were sufficiently unsatisfactory to warrant their discontinuance, since evidence of such variation was apparent.

The presumptive Kahn test, using a more sensitive Kahn antigen, was used in but two cases. The comparative results, however, were the same, suggesting a fixed point in the appearance of the positive reaction regardless of antigen sensitivity.

CONCLUSIONS

To determine that serologic test which was able to identify a syphilitic infection in its earliest stage seemed of sufficient importance to warrant the investigation contained herein. The results are obviously not conclusive and do not permit the inference of advantage or advisability of one test over the other. It would indeed be helpful if at intervals such material could be utilized to act as a check on the serologic procedures of all laboratories.

In view of the many sources of error, it is to be hoped that this material will not act to unjustly affect a test which has proved one of the greatest aids to modern medicine.

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† The tests were done by Mrs. Chestnut, in charge of the serologic laboratory of the Los Angeles County General Hospital.

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DISCUSSION

Newton Evans, M. D. (White Memorial Hospital, Los Angeles).—Doctor Chambers' communication presents a significant clinical experimental observation. It has a practical bearing on the treatment of syphilis. To know that the Kolmer test will enable the physician to recognize serologically the presence of a primary infection on an average of four days earlier than it can be detected by the Kahn test, is of definite importance in the institution of treatment.

To the student of serology, it opens the way for speculation on the nature of the specific antibodies concerned in the serologic tests for syphilis. In the laboratory of the Los Angeles County General Hospital, observations on approximately ninety thousand parallel Wassermann and Kahn tests have made it clear that there is no close parallelism between the two tests. While there is complete agreement within the limits of the ordinary reading in 96 per cent of specimens, there is a limited group of cases in which there is a constant complete disagreement. Some sera are Kahn-positive four plus with negative Wassermann, and others give exactly opposite reactions. This discrepancy is not due to mistakes in the technique or reading, but is a constant difference proved by many repetitions. This observation is in harmony with numerous large series of observations in other laboratories.

One cannot escape the conclusion that there must be an essential difference in the character of the substance or substances in the serum responsible for the reaction with the antigen in the two tests. Doctor Chambers' observation of the constant difference in date of appearance of positivity of the two tests is strong confirmation of this viewpoint.

On the contrary, men who have made an extensive study of these serologic tests hold a different opinion. Doctor Kolmer has stated: "I have conducted considerable investigation and the results have convinced me that precipitin and complement fixation antibodies are either identical or so closely associated in the phenomenon of complement fixation as to demand the presence of both for the reaction. I believe they are identical or very closely related." But he admits that conclusive evidence of their unity has not been produced. Doctor Kahn expresses a similar opinion and quotes Dean to the effect that precipitin (of the Kahn test) and amboceptor (of the Wassermann test) are the same substance.

Assuming the validity of Doctor Chambers' observation, one must conclude that in the two tests either the nature of the reacting substance or substances in a given syphilitic serum must be in some way different or that the Wassermann (Kolmer modification) test is a more sensitive indicator of the presence of the reacting substance. This latter alternative conclusion appears absurd in view of the thousands of dependable tests on syphilitic serum in which the Kahn is four plus positive and the Wassermann completely negative.

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W. T. Cummins, M. D. (Southern Pacific General Hospital, San Francisco).—There is an increasingly large number of laboratories that are employing the Kahn technique, either alone or with the Wassermann technique. A comparison of the two tests in the routine examination of many cases has revealed numerous, unexplainably wide differences in results. It has been said that the Kahn test is the more sensitive, especially in eliciting positive reactions during syphilitic treatment.

The author has chosen for his study a very important and practical phase of the subject. The earliest possible diagnosis of syphilis after the appearance of the primary lesion is that which we wish to attain. Negative darkfield results are sometimes followed by positive serologic findings.

With the Kolmer-Wassermann positiveness preceding that of the Kahn by four days, as determined by the author, one might interpret, indeed, such findings by the assumption that the Kahn antigen or antigens were undersensitive. Be that as it may, his results suggest that the complement fixation and the precipitin reactions for syphilis do not elicit the same so-called antibody.

The author has presented a very pertinent contribution and we trust that he may continue the work and that others may be interested, so that an extended investigation will be made in order to facilitate the earliest possible diagnosis of syphilis and, perhaps, to establish the identity or lack of identity of the reacting substances in syphilitic serum.

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H. A. **Wyckoff**, M. D. (Stanford-Lane Hospital, San Francisco).—The objective of Doctor Chambers' investigation has most important bearings. The value of his contribution, real as it already is, will be enhanced by further work on his part, and by repetition of his experiments by others. Such substantiation is, of course, indispensable.

The expression of an opinion as to the validity of his findings should probably not be attempted by any but those who have already performed similar investigations or parallel experiments. For this reason it seems probable that the valuation and interpretation made by Doctor Chambers himself deserves most attention.

He has perhaps been somewhat too modest in his estimation of the value of his observations as they at present stand. It must be realized that the ultimate test of the worth of a method to the medical profession must be the result obtained when carefully performed by trained workers under everyday conditions and not in some environment specially created.

Doctor Chambers' clear and concise description of his methods and findings seems to indicate that his investigation has been made with dependable reagents and with adequate control. His results and conclusions have a right to consideration by those qualified to judge.

PARTIAL GASTRIC RESECTION*

By E. Eric Larson, M. D.
Los Angeles

Discussion *by Clarence G. Toland, M. D., Los Angeles; Charles T. Sturgeon, M. D., Los Angeles; John C. Ruddock, M. D., Los Angeles.*

GASTRIC resection was first successfully accomplished by Theodore Billroth in 1881.[1] A few months later the first gastro-enterostomy was done by Wöffler.[2] Since that time, so thoroughly have the technical barriers been overcome and so well understood are the major indications for gastric surgery that there is now no hesitancy in resorting to surgical procedure. However, there is a striking difference of opinion among our best physicians as to the type of operation to be performed. During the past decade noted European surgeons have constantly recommended partial resection for most gastric lesions, as well as for duodenal ulcers, reporting that the result of this type of operation is much better than that following gastro-enterostomy. This influence has extended to America, where many surgeons corroborate statistics of their European confrères. It is the purpose of this paper to emphasize some of the indications for, and the management of, partial gastric resection.

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* Read before the General Surgery Section of the California Medical Association at the sixtieth annual session at San Francisco, April 27-30, 1931.

INCIDENCE

Peptic ulcer, with its complications, continues to be a major problem in gastroduodenal pathology. The etiology remains unknown in the face of earnest investigation by research workers, by physicians and surgeons actively engaged in its treatment, by pathologists, and also from statistical studies made available by medical institutions and insurance companies.

Bevan[3] states that 10 to 12 per cent of our population have peptic ulcer, and that 90 per cent of gastric ulcers occur in the "magenstrasse" (Waldeyer). Robertson and Hargis[4] have demonstrated that there are benign lesions in 19 per cent of necropsies, with 65 per cent in the duodenum and 35 per cent in the stomach. From this we infer that ulcers may develop, then heal, leaving no trace. However we feel about our increasing knowledge of physiology, biochemistry, and the information regarding peptic ulcer, the statistical fact, constantly emphasized and widely practiced, is that approximately three-fourths of all peptic ulcers can be healed by an adequate medical regime and the remainder should be treated by surgery.

Statistics and opinions as to the relationship between gastric ulcer and malignancy vary greatly. Crile[5] is of the opinion that less than five per cent of gastric ulcers become malignant; Lahey[6] states that his estimate is less than 10 per cent. Many surgeons regard most gastric ulcers as surgical when no contra-indications exist. The differential diagnosis between gastric ulcer and early carcinoma is so difficult that an exploration, with the assistance of a pathologist, is often necessary. Gastric cancer has a short history, while it is not unusual to obtain a long ulcer history previous to gastric malignancy, suggesting two facts: that ulcer is not a commonly precancerous condition, and that the medical treatment of ulcer is a failure in many instances. It happens occasionally that the medical profession is spared an embarrassing situation when a huge lesion diagnosed as an inoperative gastric malignancy is denied an exploration for verification, and a cultist leaps the barrier with a satisfied patient.

DIAGNOSIS

The mimicry of ulcer by other pathological conditions, the distorted physiology of malfunctioning organs, and the fact that intrinsic lesions constitute only a small percentage of the causes of dyspepsia, demand a thorough clinical study of the patient. Painstaking diagnostic procedures will include a carefully detailed history and thorough physical examination, combined with laboratory data, including gastric analysis and roentgenologic study.

Gastric retention and blood chemistry studies may indicate a serious degree of alkalosis, with impending tetany. Anacidity may postulate an inactive healed ulcer, malignancy, pernicious anemia, or asthenic-neurotic state with a hypotonic stomach, requiring careful analysis as to a more definite etiology.

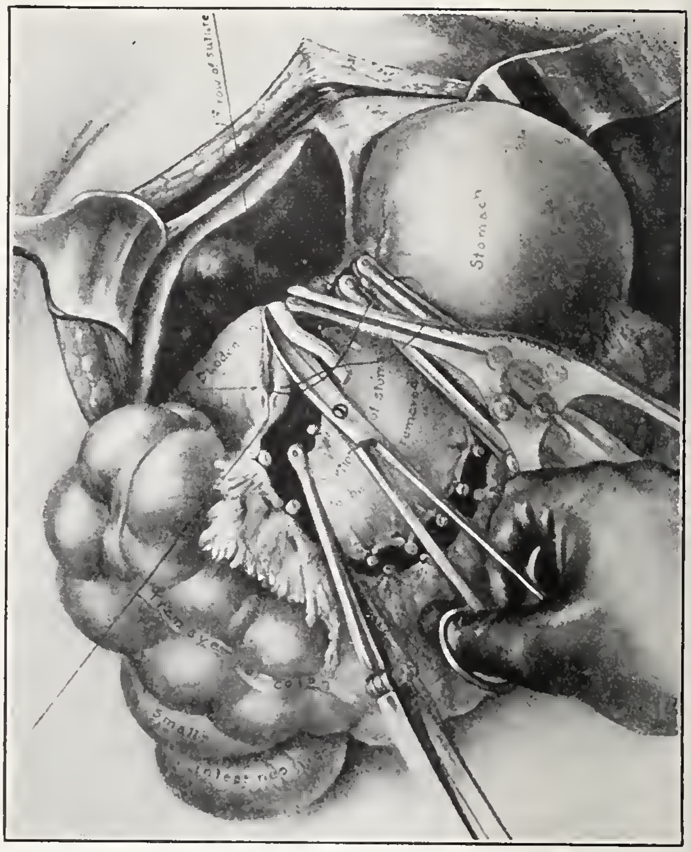

Fig. 1.—Crushed tissue removed from duodenal stump and suture line buried. Portion of stomach to be removed is isolated and ready for removal.

The data will demonstrate whether the ulcer is gastric or duodenal, simple or complicated. Shallow saddle ulcers at the lesser curvature, where the only finding is a diminished peristalsis, may be an exception to this rule, since they frequently escape detection, even in the hands of our best roentgenologists. Thus a careful marshaling of all the facts in regard to the clinical development, size, position, and complications induced by cicatrization, hemorrhage, perforation, or degeneration, with a detailed study of the well-being of the patient, should influence the type of treatment to be instituted. If an incomplete attack is necessitated we must expect an incomplete result.

METHODS OF MANAGEMENT

For years there has been advocated a reform in the surgical and medical rivalry now existing in the management of peptic ulcer. Better non-operative methods of ulcer treatment are being constantly evolved since Sippy[7] first published his regimen. Excepting patients with obstruction, massive hemorrhage, acute perforation, or malignant degeneration, all peptic ulcers should first be given the advantage of a thorough medical regimen. Even if dietary measures fail, the patient will have been trained in the dietetic restrictions which must follow the operation. Medical management will greatly reduce the inflamed, callous, adherent ulcer mass, and if surgical treatment is instituted the procedure will have been simplified.

Relief of chronic lesions by surgical means must be applied when medical measures fail to give relief to symptoms, to protect against the recurrence of ulcers or such complications as unrelieved pyloric obstruction, or if, in gastric ulcer, there is frank degeneration or suspicion of it. The basic principles in surgical treatment are identical with those postulated in a successful medical regimen, viz., the relief of acidity and the control of muscular spasm, combined with gastro-intestinal continuity, facilitating drainage. Gastrojejunostomy accomplishes this, especially if the anastomosis is well placed and obstruction avoided. Pyloroplasty in selected patients, with excision of the ulcer, combined with careful examination of the open duodenum for unsuspected multiple ulcerations and their eradication, will give a large percentage of excellent results. The election of each type of pyloroplasty (viz., Heineke-Mikulicz, Judd, Finney, Horsley) must be left to the surgeon at the open abdomen, where he may employ vision and palpation. Partial gastric resection may be the operation of choice, especially in those patients who have had previous unsuccessful gastric operations, and in those where radical removal of the pathologic tissues, as well as the acid-bearing portion of the stomach, is advisable.

Various types of partial gastric resection necessitate a broad training and experience, with balanced judgment, to determine authoritatively the conditions which can be reasonably selected for conservative methods and those which should be treated by thorough surgical efforts. Judgment in this type of surgery is knowing whether to take great and seemingly unwarranted risks or to withdraw in the face of unexpected difficulties; whether temporarily to abandon the procedure short of completion when confronted by a formidable lesion and finish the operation at a second stage or to risk operative fatality. In this connection it seems well to emphasize that a temporary type of procedure is indicated in those patients who have such dangerous complications as colic fistulae occurring with marginal ulcers, or old perforations with a posterior communicating cavity before the partial gastric resection is done. When standardization of partial gastric resection is avoided the results will be better.

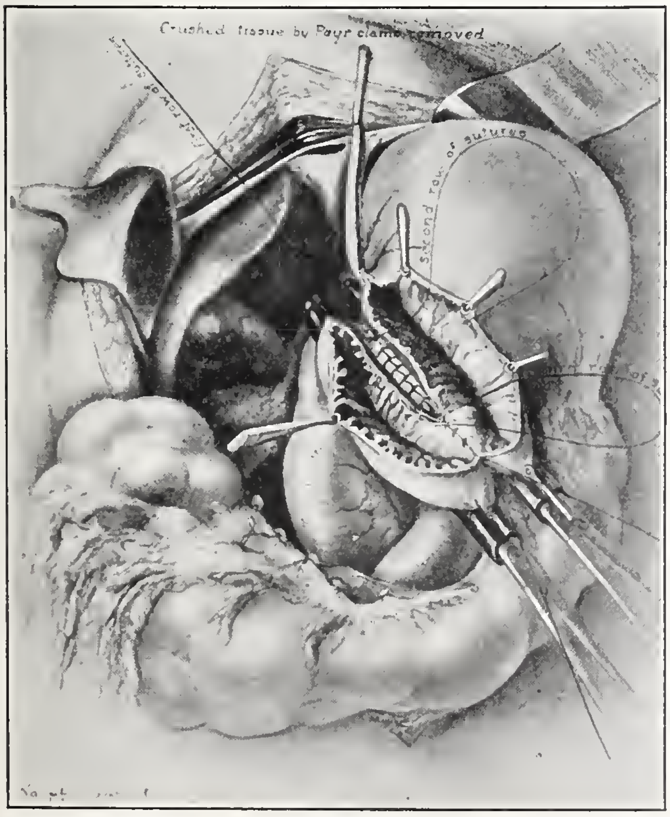

Fig. 2.—Posterior polya. Jejunum brought up through a rent in mesocolon and serosa suture made. Second row nearly completed and mucosal suture started.

Although most of us do not agree with those physicians who are at present eulogizing partial gastric resection as the treatment of choice for duodenal ulcers, it is admitted that there may be a place for this type of operation in large bleeding and eroding posterior wall duodenal ulcers, or in patients who have several large ulcers throughout the first and second portions of the duodenum. Otherwise it does not seem correct to remove a large portion of a healthy stomach for duodenal ulcers which can be handled by a more simple initial operative procedure. Marginal ulcers recurring after gastro-enterostomy and pyloroplasty or malfunctioning anastomoses, and gastric ulcers resistant to adequate medical management, and, of course, new growths which offer a chance of complete removal, seem best treated by partial gastric resection.

Partial resections of the direct type, such as the Billroth No. 1,[1] can be used with advantage where the mobilization of the stomach and duodenum is possible and if the technique of avoiding its dangers is well known and observed. An increasing amount of statistics is constantly becoming available from large institutions, indicating that this type of operation which was formerly so hazardous is giving good results with no increase in operative mortality. Circular excision seems to have minimal indications except for the hour-glass stomach.

The indirect type of resection, based on the Billroth No. 2 [1] and its modifications, most notably the Polya,[8] seems best suited in most instances for extensive gastric resection. Since it is advisable that one-half to three-fifths of the pyloric end of the stomach be removed in resections, the acid-bearing portion and the seat of the pathology can be excised with a wide margin. Ulcers involving the lesser curvature may necessitate for their removal modifications of the usual procedures. It may be advantageous to remove the whole lesser curvature and resuture the cut edges as devised by Schoemaker,[9] before the anastomosis is made, whether by the direct or indirect methods of partial gastric resection. It is important that the surgeon exercise caution and make an anticolic type of Polya, with an entero-anastomosis wherever it seems likely that the stump will be too short to bring down through the mesocolon and thereby form an obstruction.

I shall briefly describe the technique of indirect partial gastrectomy after the method of Polya,[8] which I feel has certain advantages and gives excellent results. The pyloric and gastro-epiploic vessels are ligated. The Payr clamp is then applied, the tissues crushed, the pylorus divided, and the duodenum securely closed by one of several methods. According to the preference of the surgeon, the duodenal end can be either inverted or buried. The latter method is more simple, gives a safe closure and prevents duodenal fistula, which is a severe and dangerous complication. The closure is then reinforced by tags of omentum. If a lesion exists in the duodenum it may be disregarded and the stump of the duodenum closed. The pyloric end of the stomach is then mobilized by ligation in sections of the gastrohepatic and gastrocolic omenta. The vessels along the lesser curvature are ligated to a point one inch beyond the line at which the resection is to be made. The ligation of the gastric artery must be safe. A long rubber clamp is placed as high as possible on the stomach, which is then turned over to the left. The jejunum is brought up through an opening in the mesocolon and a segment four inches long, about five inches from Treitz' ligament, is caught in a soft rubber clamp. This is sutured, with chromic catgut or silk, to the stomach, the proximal end of the jejunum to the lesser curvature and the distal end of the jejunum to the greater curvature. A large Payr clamp is then placed across the stomach along the line where the resection takes place. Tissues are crushed to facilitate hemostasis, and most of the crushed tissue is removed with scissors. The first suture line prevents retraction of the stomach into a position where suturing would be difficult. Large vessels in the open end of the stomach are clamped and ligated to prevent hemorrhage. An opening of corresponding size is then made in the jejunum and anastomosis completed in the usual way. When the posterior suture line is complete, it is advisable to loosen the clamps and inspect for hemorrhage, which, if present, can be controlled by a transfixing suture. Tension sutures are placed at both ends of the completed suture line to counteract any undue strain. The whole anastomosis is then drawn down through the opening in the mesocolon and the edges of the latter structure are sutured to the stomach at as high a point as possible. The anterior type of resection is made in a similar manner, the jejunum being placed anteriorly to the transverse colon, and an entero-anastomosis is made. The divided gastrocolic and gastrohepatic omenta should be brought together by chromic catgut to prevent possible obstruction due either to herniation or to adhesions.

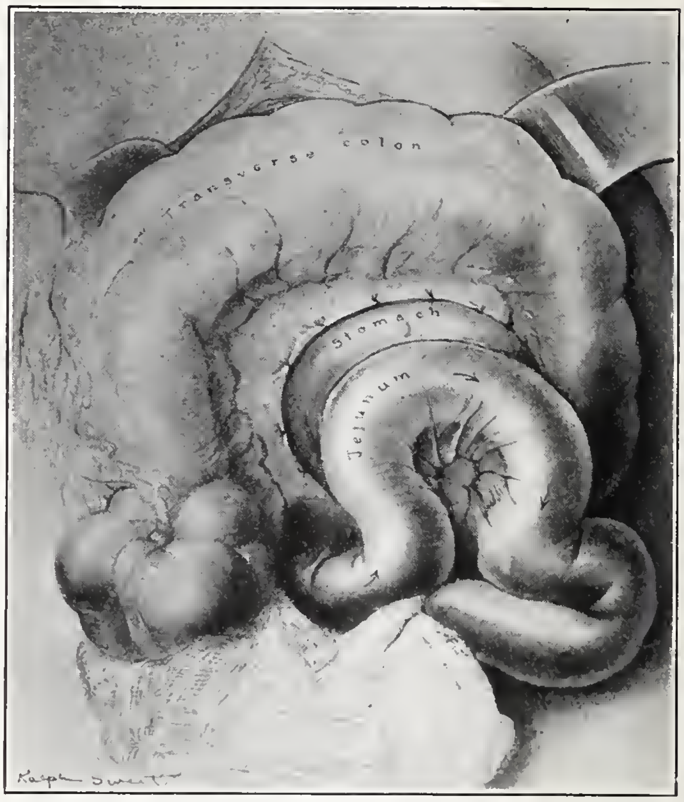

Fig. 3.—Mesocolon securely sutured to the wall of the stomach above the line of anastomosis. Jejunum retroperistaltic.

Postoperatively these patients usually do as well as those following gastro-enterostomy or pyloroplasty. It has been my practice to keep the stomach at rest until danger of hemorrhage is diminished and the edema at the suture line has subsided, approximately four days, fluids being supplied by the rectal and subcutaneous routes. If no contra-indications then exist, liquids are given by mouth in small quantities, increased gradually, after which the diet is restricted to soft, easily digested foods, and the patient instructed to adhere to a rather strict regimen with frequent daily feedings for several months. When six to ten months have elapsed the patient is given barium and is fluoroscoped to determine his progress and the necessity of further advice.

SUMMARY

1. There is a growing tendency among internists and surgeons to share the responsibility in the management of gastroduodenal lesions. Uncomplicated peptic ulcer should be given the chance of an adequate medical regimen before surgery is advised. The surgeon who does not agree that most chronic peptic ulcers should be treated by an internist, and the internist who does not recognize that a small percentage should have the opportunity offered by surgical procedures are each a detriment to the medical profession, as well as to the patient.

2. Gastric ulcers, situated in the lower half of the stomach or at the lesser curvature, which do not improve on an adequate medical regimen, localized new growths, malfunctioning or ulcerated pyloroplasties or gastro-enterostomies respond well to partial gastric resection.

3. Multiple ulcerations, or large hemorrhaging posterior wall duodenal ulcers, may warrant partial gastric resection where the risk is justified.

4. Benign duodenal ulcerations, if submitted to surgery, should first have the advantage of lesser operative procedures, such as removal with or without gastro-enterostomy or pyloroplasty. Resection can be done at a subsequent operation.

5. Circular excision has its best field of usefulness when applied to the hour-glass stomach.

6. The postoperative treatment of the patients after a partial gastric resection is not dissimilar

to that following pyloroplasty or gastro-enterostomy, except for more frequent feedings with lesser quantities for an extended period.

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DISCUSSION

Clarence G. Toland, M. D. (1930 Wilshire Boulevard, Los Angeles).—Partial gastric resection is a surgical procedure that demands the most careful judgment before being chosen, but in its proper place yields very excellent results. Its indications in a few conditions are fairly positive. In most cases it is a matter for decision only with the abdomen opened and the existing pathology well in view. The location and nature of the lesion, its size, the relative risks of a conservative operation versus the more radical partial gastrectomy, are all factors carefully to be considered.

Gastric surgery is directed essentially at extirpation of the pathologic lesion and an attempt at correction of the disordered physiology. Thus partial gastrectomy is a sound operation physiologically in certain gastric and duodenal ulcers, that is, it removes the acid-forming area, corrects muscle spasm, and allows for postoperative motility. It is not justified as a primary procedure in the treatment of duodenal ulcer due to its still prohibitive mortality. In the bleeding type of duodenal ulcer, too, removal of the bleeding area is highly desirable, but too often we are confronted with a large ulcer with surrounding subacute inflammation and immobility of the first and second portions of the duodenum which renders excision or resection extremely hazardous. Of necessity, we must be content with gastro-enterostomy which, fortunately, prevents recurrence of bleeding in a majority of cases.

A definite indication for partial gastrectomy exists, I believe, in those cases with extensive gastrojejunal ulceration following gastro-enterostomy, also in those cases where the original ulcer either has not healed, or has narrowed the duodenum so that satisfactory pyloroplasty is impossible. The mortality of gastric resection will be between three and five per cent, but in chosen cases the operation is certainly justifiable.

Malignancies without metastasis should, of course, have either a partial or complete gastrectomy, even in the presence of metastasis, if such is not too extensive. If an ulcerated, necrotic, infected, gastric lesion can be removed, we believe a great deal of suffering will be spared the patient; we know the primary gastric lesion causes far more pain than liver metastases. The same principle that applies to removal of a sloughing ulcerating breast cancer with metastases applies here.

The type of operation used is the one which suits the individual case. Occasionally a two-stage operation is indicated. All types of operations have their place, but their application depends upon the experience of the surgeon. No one type can be used in every case.

I am strongly against any surgical procedure that carries hazards when a much more simple procedure will give the same result with less operative mortality, and with fewer and less severe complications. In other words, "surgical judgment is our guide."

Doctor Larson has brought to our attention a subject that should receive careful thought and consideration by all men practicing surgery.

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Charles T. Sturgeon, M. D. (1930 Wilshire Boulevard, Los Angeles).—Doctor Larson has reviewed the subject of the surgical treatment of peptic ulcer very well and very conservatively. He wisely did not recommend routine partial gastrectomy for duodenal ulcer.

There is at present much controversy among surgeons as to whether partial gastrectomy should ever be used for duodenal ulcer. In the great majority of duodenal ulcers, especially of the uncomplicated type, there is no question but that excision of the ulcer plus a posterior gastro-enterostomy gives results which are as good, if not better, than partial gastrectomy, and the mortality is much lower.

Occasionally partial gastrectomy is indicated in duodenal ulcers, viz., in ulcers where there have been repeated massive hemorrhages; also in duodenal ulcers situated in the posterior wall and which are adherent to the pancreas. In this latter type, partial gastrectomy should be done if possible. At times it is a very difficult surgical procedure and the mortality is very high.

In gastric ulcers there are more indications for partial gastrectomy than in duodenal ulcers; many of the gastric ulcers are large and deforming and are frequently adherent to the pancreas and to the surrounding structures. Obviously in this type of case a partial resection will give more relief than a gastro-enterostomy. One must remove the pathology if one expects to cure the patient completely.

There is one type of ulcer which in our hands has given a great deal of trouble: that is, an ulcer high up on the lesser curvature, near the esophageal opening. Formerly in this type of case we contented ourselves with a resection of the ulcer and an added posterior gastro-enterostomy, but our results were not satisfactory. In the last two cases of this type we employed the method which Doctor Larson mentioned in his paper, viz., Schoemaker's modification: doing a partial gastrectomy, removing all of the lesser curvature, closing a portion of the segment, and the operation completed by means of a Polya. Our results in these two cases have been better than the results formerly obtained.

Patients who require as extensive an operation as partial gastrectomy are usually in poor physical condition and require thorough preliminary preparation. They should receive an abundance of fluids two to three days before the operation. If they are very anemic they should be given transfusions, and in cases of obstruction gastric lavage should always be done for several days before the operation. Also, as Doctor Larson mentioned in his paper, all ulcer patients on whom surgery has been done should be referred to an internist for medical and dietary supervision over a long period of time.

The technique of doing a gastrectomy today is fairly well standardized. The only debatable part of the technique is which method is the best to use to restore the gastro-intestinal continuity. If enough of the stomach is left so that the duodenum can be sufficiently mobilized, a Billroth No. 1 type of operation is the operation of choice, as in this manner the normal physiology is restored. But in the other cases, which comprise the majority, so much of the stomach has been removed that a Billroth No. 1 cannot be used; therefore the restoration should be completed by means of either a posterior or anterior Polya.

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John C. Ruddock, M. D. (1930 Wilshire Boulevard, Los Angeles).—Doctor Larson has offered an excellent discussion of the surgical treatment of peptic ulcer, with a technical description of the "modus operandi" of partial gastrectomy. His attitude is conservatism; and this should be maintained by surgeons doing gastric surgery, because, as the author has stated, approximately 75 per cent of all peptic ulcers can be healed by an adequate medical regimen.

An adequate medical regimen means that the internist should study his case thoroughly, and that his instructions and dietary are religiously carried out by the patient.

The type of operation selected is dependent on the individual case with which we are dealing. This selection should depend upon a combined study by an internist and a surgeon, and the final judgment left to the surgeon when the pathology is seen. However, conservatism should be his rule as regards the type of operation selected.

Irrespective of the type of surgery used, the internist is eventually called upon to treat postoperatively a very large percentage of these people for various and sundry ailments.

To feel that one can reroute the gastric flow or remove the active or acid-forming portion of the stomach without altering the physiology of the organs or changing the metabolism of the individual would be wonderful, if true; but unfortunately this is not so. One must keep in mind that the gastric secretions are necessary for perfect metabolism, and often the stomach organ changes in function a resection from an active, muscular, secreting and mixing viscous organ to a mere funnel, which cannot retain its secretions and which empties its contents almost immediately into the bowel. This immediate emptying does not give the pancreatic and liver secretions the opportunity of mixing consistently with the food elements that is allowed by the slow rhythmic emptying which takes place through a normal duodenum.

It is true that these patients with partial gastrectomy obtain much relief following their surgery; but many of them end in the hands of the internist because of metabolic and physiologic disturbances. Pellagra and anemia are after-results that are not only serious but very difficult to cope with, because of the altered physiology. Other complications, such as persistent diarrhea, eructations of bile, and vague abdominal pains, usually diagnosed "adhesions," are much more common. Occasionally the internist will diagnose recurrent jejunal ulcers.

Because of the altered physiology and metabolism, these patients are never able to revert to a complete dietary; and if they would live comfortably they must restrict their dietary regimen for the rest of their lives.

Surgery is a justifiable procedure in the treatment of peptic ulcer. Partial gastrectomy in the proper hands is an excellent operation for certain conditions. Malignancy is a disease that calls for radicalism rather than conservatism. In other conditions, however, conservative measures are the measures of choice because of the mortality involved in the application of any surgical procedure and because of the altered physiology and metabolism which sometimes eventually leads to further trouble.

UPPER URINARY TRACT AND THE ADJACENT ORGANS — THE DIFFERENTIAL DIAGNOSIS OF PATHOLOGIC CONDITIONS*

REPORT OF CASES

By William E. Stevens, M.D.
San Francisco

Discussion *by Charles P. Mathé, M. D., San Francisco; Wirt B. Dakin, M. D., Los Angeles; Louis Clive Jacobs, M. D., San Francisco.*

The differential diagnosis of pathologic conditions of the upper urinary tract and the adjacent organs constitutes one of the most interesting studies in the field of medicine and surgery. The practice of medicine, and especially that branch of it known as urology, is rapidly approaching an exact science, and with the armamentarium and methods of precision now at our disposal there is little excuse for mistakes in the great majority of cases. In some instances, however, the usual subjective symptoms are absent and the objective findings negative or misleading. In addition to close approximation anatomically, the upper urinary tract and abdominal organs are closely associated through lymphatic and vascular anastomoses as well as through the sympathetic and cerebrospinal nerve plexuses. Variations in contour, position and size, as well as congenital anomalies and acquired abnormalities of both the urinary and intra-abdominal organs, may add to the confusion. Because of these facts pathologic conditions of the upper urinary tract may be responsible for pain and other symptoms in various parts of the abdomen. Likewise, symptoms apparently due to other intra-abdominal pathology may be present in the absence of disease of these organs. Pathologic conditions of the lungs, pleurae, adrenal glands, and the lower genito-urinary tract in both sexes are occasionally to blame for pain in the upper abdomen and should not be overlooked. The possible coexistence of lesions of both the urinary and the adjacent organs should likewise be remembered. A negative urine does not necessarily exclude cortical abscesses, carbuncles, a noninfected or closed hydronephrosis, a closed renal tuberculosis, or even a calculus. Pain due to all of these conditions may be localized or radiate in any direction and even be responsible for pain in the opposite kidney, the so-called renorenal reflex, or in any of the intra-abdominal organs. Obstructions of the ureters due to strictures, kinks, fibrous bands, or anomalous vessels may be present in the absence of subjective or objective symptoms other than pain. Cecil,[1] in a review of three hundred cases of urinary-tract pathology found that pain, present in one hundred and eighty-three cases, was limited to the abdomen in over 22 per cent. The fact is not generally appreciated that in at least one-third of all patients entering a hospital with uncertain diagnoses urologic investigation is indicated. Many unnecessary operations have been performed because of incomplete examinations. The importance of an early diagnosis of such conditions as a ruptured kidney, bladder, liver, spleen, or ectopic pregnancy, a perforated gastric or duodenal ulcer, a volvulus or twisted pedicle of an ovarian cyst as well as acute appendicitis is obvious.

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IMPORTANT DIAGNOSTIC PROCEDURES

It is not my intention to discuss exhaustively the various methods of diagnosis of pathologic conditions of the upper urinary tract and the adjacent organs, but to briefly mention the principal modern diagnostic procedures and to call attention to some of the conditions in which mistakes in diagnosis are common and to others in which a correct diagnosis is exceptionally difficult, if not impossible. The lower genito-urinary tract will not be considered other than to emphasize the fact that pathologic conditions of the prostate and seminal vesicles in the male, the pelvic organs in the female and the urethra in both sexes may be responsible for symptoms suggestive of upper urinary tract pathology or be the principal etiologic factor in pathologic conditions of the entire urinary tract.

PYELOURETEROGRAPHY

While pyeloureterography is of great diagnostic value in pathologic conditions of the kidney and ureter, mistakes in interpretation are not uncommon. This is less apt to occur, however, if bilateral stereoscopic pyeloureterograms are taken with the patient in the prone, supine, upright, and Trendelenburg positions following both the insertion and withdrawal of opaque ureteral catheters. The lateral position is also of occasional value. It is often impossible to make a positive diagnosis of hydronephrosis or hydroureter or of a stricture, kink or pressure on the ureter by anomalous vessels or fibrous bands if this procedure is not employed. While excellent pyeloureterograms are sometimes obtained following the intravenous injection of uroselectan and similar preparations they are rarely as satisfactory as those resulting from the retrograde injection of the kidneys through ureteral catheters. Good pictures are seldom obtained with uroselectan, skiodan, or neoiopax if there is much decrease in kidney function, and consequently faulty interpretation is not uncommon. Reports of untoward results following the intravenous injection of these preparations are beginning to appear in the literature.

PATHOLOGIC CONDITIONS OF THE UPPER URINARY TRACT MISTAKEN FOR DISEASES OF ADJACENT ORGANS

The most common pathologic conditions of the upper urinary tract that are mistaken for diseases of other organs are acute pyelitis or pyelonephritis, renal and ureteral calculi and strictures and kinks of the ureters with the resultant hydronephrosis. Anomalous vessels, bands and adhesions, involving not only the upper but occasionally the lower third of the ureter, while less common, are not infrequently responsible for symptoms due to obstruction and are often overlooked. The appendix has been blamed most often for the symptoms in these cases, next in frequency the biliary tract and the female pelvic organs. Every urologist sees patients with pathologic changes in the upper urinary tract who have been subjected to unnecessary operations on other organs.

PYELONEPHRITIS

A mistaken diagnosis of acute appendicitis is most often made in the presence of pyelonephritis. Blesh,[2] reviewing five thousand surgical cases, in many of which the appendix had been removed, found that 40 per cent of the patients still complained of the same symptoms after as before operation. Lowsley and Twinem,[3] in a review of eighty-four urological cases, found that thirty-nine patients had previously undergone some major surgical operation without relief of symptoms. Thirty-one had had the appendix removed.

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Case 1.—One of our patients complained of severe pain in the right lower abdominal quadrant and slight tenderness in the right costovertebral angle. Tenderness and rigidity was most marked at McBurney's point. The urine contained a few pus cells. The temperature was 102.6, pulse 92, respiration 22. The blood count showed 19,600 leukocytes, 82 per cent of which were polymorphonuclears. The surgeon made a diagnosis of appendicitis, but on opening the abdomen a normal appendix was found. The patient was comparatively free from symptoms for eight days when the previous symptoms returned. Exploratory laparotomy was considered, but microscopical examination of the urine now disclosed a large number of pus cells. A catheterized specimen of the right kidney urine contained numerous pus cells. Recovery speedily followed routine treatment for pyelonephritis.

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Case 2.—A girl sixteen years of age had suffered from sharp intermittent pain in the right lower abdominal quadrant for four months and nausea and vomiting for three weeks. There was marked tenderness over McBurney's point. The urine contained an occasional pus cell. A diagnosis of appendicitis was made, but calibration of the right ureter and pyelography revealed a stricture of the ureter and a slight hydronephrosis. All symptoms disappeared following dilatation of the ureter.

These are typical cases in which the mistaken diagnosis of appendicitis is made. As a rule the pain is less intense, the temperature and leukocyte count lower, and rigor more common in pyelonephritis than in acute appendicitis. Frequency of micturition is increased and the urine is usually turbid, as it always contains pus and not uncommonly blood cells. The patient rarely appears as ill in the former as in the latter condition. Gastro-intestinal symptoms are less common in pyelonephritis than in appendicitis, although the fact must be remembered that they occasionally predominate in various lesions of the urinary tract.

CALCULI

A mistaken diagnosis of acute or chronic appendicitis, cholecystitis, or cholelithiasis is not uncommon in the presence of renal calculi. The pain due to stones is usually more severe than that in appendicitis or cholecystitis, and in over 80 per cent of cases radiates either upward or downward according to the location of the stone. Bumpus and Gershom,[4] however, in a series of 1001 cases of ureteral calculi found that the pain was entirely epigastric in 162. Peptic ulcer had been diagnosed in seventeen, and in the remaining of the 162 a diagnosis of cholecystitis had been made. Renal and ureteral calculi are usually irregular in shape and of uniform density, although occasionally there are exceptions to these rules. The urine usually contains pus and blood and there is a decrease in kidney function. Disturbances of urination are common and if obstruction is complete or the stone in process of expulsion, pain is intense. The presence of renal or ureteral calculi can almost always be detected if stereoscopic pictures are taken with the kidneys and ureters at first uninjected and then injected through x-ray catheters inserted as far as the pelvis of the kidney. Wax-bulb catheters frequently aid in the detection of ureteral stones.

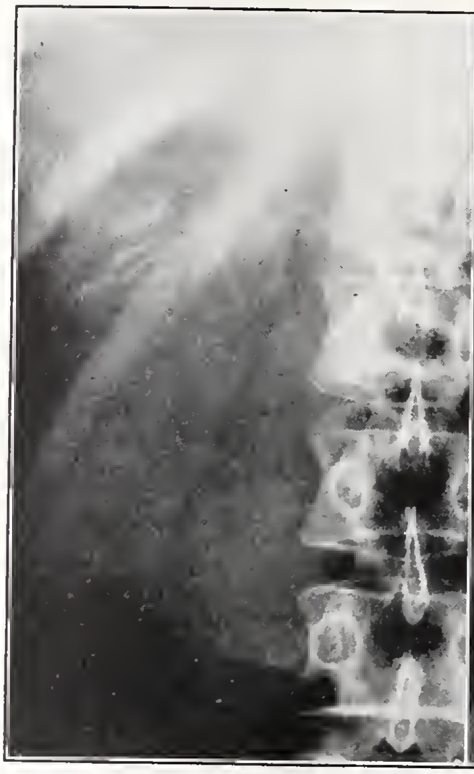
Fig. 1.—Marked hydronephrosis and hydroureter mistaken for a retroperitoneal tumor.

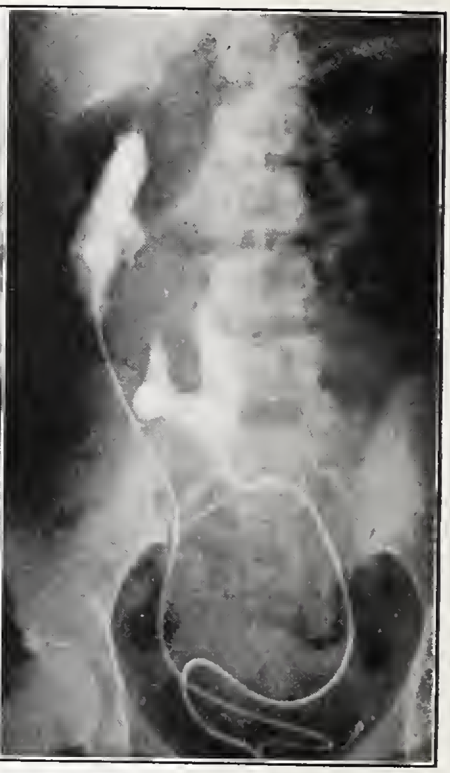
Fig. 2.—Probable horseshoe kidney. Very marked displacement of left segment.

HYDRONEPHROSIS AND URETERAL OBSTRUCTION

Hydronephrosis and kinks of the ureter are readily detected by pyeloureterography, stricture of the ureter by pyeloureterography and bulbed catheters or bougies. The diagnosis of anomalous vessels and fibrous bands as the cause of ureteral obstruction is more difficult, but in the presence of dilatation of the renal pelvis without demonstrable strictures, kinks or calculi in the ureter they are to be suspected. A break in the continuity of the ureter, as seen in the ureterogram, is strongly suggestive. The possibility of dilatation of the pelvis of the kidney due to chronic infections and of the ureter because of decreased muscle tonicity is to be considered.

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Case 3.—A single woman, forty-three years of age, complained of pain in the lower lumbar region, lower abdomen, and down both thighs. She had had occasional attacks of frequent urination but no other symptoms. The uterus and both tubes had been removed seven years previously. A large firm irregularly shaped freely movable mass in the upper right quadrant, most prominent anteriorly, could be felt on palpation. On deep inspiration this mass, interpreted as the right kidney, apparently descended from above and posterior to the tumor. The urine was chemically and microscopically negative. The right ureter could not be catheterized because of a stricture in its lower third and consequently pyelography was impossible. Roentgenological diagnosis: Right kidney (Fig. 1) apparently normal in size, position, and contour. A mass is seen anterior to the kidney. In view of these findings pathologic changes in the kidney were considered improbable. A diagnosis of retroperitoneal tumor not connected with the urinary tract, as well as a stricture of the ureter, was made by the surgeon. Operation revealed an enormously dilated right renal pelvis and ureter and almost complete destruction of the kidney parenchyma. The kidney was removed. Pyeloureterograms following the intravenous injection of uroselectan, introduced since this case came under our observation, might have revealed the true condition. Because of the marked destruction of the kidney parenchyma, however, the nephrectomy was indicated.

HORSESHOE KIDNEY

A horseshoe kidney, the most common congenital anomaly of this organ, is occasionally mistaken for tumor of the pancreas, intestines, omentum, or retroperitoneal lymphatics as well as for an inflammatory exudate. Although subjective symptoms are often absent, pain or a sensation of pressure in the abdomen are common. Pyelography is necessary for a diagnosis. By this procedure overlapping of the calices due to the usual anteroposterior direction of the pelves, because of incomplete rotation of the kidneys, will be found. Because of their close approximation the pelves are nearer the vertebral column. If pyelography is not feasible, a diagnosis must be made by exclusion and is difficult or impossible.

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Case 4.—A single woman, twenty-two years of age, stated that she had suffered from intermittent pain in the right lower quadrant for a period of two years and pain in the right kidney region for the past week. She had first noticed a mass in the lower abdomen two years ago. She had never complained of any other symptoms of urinary-tract pathology. The appendix had been removed one year previously. Following this operation the mass as well as the pain seemed to disappear for a time. Urological investigation revealed a horseshoe kidney (Fig. 2) with some blunting of the minor calices. Marked relief from pain has followed ureteral dilatation.

ABDOMINAL AND OTHER CONDITIONS SIMULATING LESIONS OF THE UPPER URINARY TRACT

Much has been written concerning lesions of the upper urinary tract that have been mistaken for pathologic conditions of other abdominal organs. Comparatively little is found in the urologic literature regarding extrarenal conditions responsible for symptoms suggestive of upper urinary-tract pathology. Mistaken diagnoses have been made in the presence of abnormalities or lesions of the gastro-intestinal tract, especially the appendix, of the biliary tract, spleen, adrenal glands, lymphatics, female pelvic organs, seminal vesicles, nervous system, chest, and a few other conditions.

APPENDICITIS

The pain due to appendicitis does not radiate, but may vary according to the location of the appendix. In the beginning it is most pronounced in the epigastrium and is usually accompanied by vomiting. Later there is tenderness along the course of the appendix and rigidity of the abdominal muscles. An appendix adherent to the bladder may be responsible for frequent urination and pain. Fever always accompanies acute inflammation of the appendix, and gastric symptoms are usually present in both acute and chronic cases. The presence of a few pus and blood cells in the urine, not uncommon during an attack of appendicitis, may be confusing. In the presence of an inflamed retrocecal appendix, with or without abscess formation, the pain is often located in the costovertebral angle, and differentiation from acute infection of the kidney or perinephritic abscess is sometimes difficult, if not impossible. If after a thorough examination acute appendicitis cannot be excluded, an exploratory laparotomy is not only justifiable but strongly indicated. The latter, sometimes performed in the presence of more chronic conditions merely with the idea of correcting any lesions that may be encountered, is not justifiable until every other means of diagnosis has been exhausted. Most renal and ureteral pathology cannot be detected by this procedure.

Chronic appendicitis is to be suspected if a history of recurrent attacks of pain in the region of the appendix, accompanied by gastro-intestinal symptoms, is given. The fact should be remembered, however, that pathologic conditions of the ureter and colon are frequently responsible for pain in this location. Liek[5] analyzed one thousand cases in which appendectomy had been performed following a diagnosis of appendicitis and found only one hundred definite instances of this condition.

FECOLITHS

Fecoliths in the appendix are sometimes confusing.

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Case 5.—A married woman, thirty years of age, complained of frequency of urination and pain in the right lumbar region radiating toward the groin and to the inner side of the right thigh as far as the knee. She was also obliged to urinate three or four times during the night. An obstruction was encountered in the right ureter, fifteen centimeters from the bladder, beyond which the catheter would not penetrate. Radiography, after the insertion of an opaque catheter, revealed two well-defined shadows in the course of the ureter at the site of obstruction. A diagnosis of ureteral calculi was made and the ureter exposed extraperitoneally by means of a right inguinal incision. During an attempt to free the ureter from dense adhesions in which it was imbedded, the peritoneum was opened and a long tortuous appendix, adherent to the ureter, was discovered. The appendix was removed and, when opened, two fecal concretions were found which were responsible for the shadows on the plate.

INTESTINAL TUMORS AND ADHESIONS

Tumors of the intestines, adhesions involving the intestines, diverticulitis and colitis are not infrequently suggestive of urinary-tract pathology.

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Case 6.—A patient complained of occasional attacks of pain and tenderness in the upper right abdominal quadrant. These symptoms were increasing in severity. Marked prolapse of the right kidney was found on examination. Cystoscopy and functional kidney tests were negative and the attacks of pain were considered due to kinking and the resultant obstruction of the ureter following displacement of the former organ. The pain did not disappear after nephropexy, however, and an exploratory operation one month later revealed a carcinoma at the beginning of the transverse colon. The symptoms disappeared following resection.

Pyeloureterography, not feasible at the time, would have ruled out a kink or stricture of the ureter.

Pain accompanying lesions of the sigmoid and colon is often referred toward the kidneys or genitalia. Most of these conditions, however, will be detected following a series of good gastro-intestinal pictures.

GASTRIC AND DUODENAL ULCERS

In gastric ulcer, pain usually occurs from one and one-half to two hours, and in duodenal ulcer from two to four hours after food. Fever is absent. The roentgenogram following the ingestion of barium usually reveals these conditions. Sharp, sudden, localized pain and shock accompany the perforation of gastric and duodenal ulcers. Unlike that following perforation of the appendix the pain does not completely disappear.

BILIARY TRACT

In pathologic conditions of the gall-bladder the pain in the right upper quadrant is often referred toward the right or both scapular regions or toward the midline. As a rule it is not intense unless a gall-stone is in process of expulsion. Flatulence, vomiting, and jaundice are common. When these symptoms are absent, disease of the biliary tract is frequently overlooked. Gall-stones, unlike renal and ureteral calculi, usually have a dense periphery. They are usually multiple, of equal size and shape and closely approximated. They are never branching. Gas bubbles in the intestines and calcifications in the rib cartilages occasionally resemble them. Stereoscopic pictures will show that gall-stones are anterior to the kidney. Their shadows are larger in x-ray films taken in the anteroposterior than in those taken in posteroanterior direction. Following visualization of the gall-bladder after the administration of tetraiodophenolphthalein, gall-stone shadows are seen to be included in the cholecystograms. Cholecystic disease is usually present if the gall-bladder fails to fill with the dye.

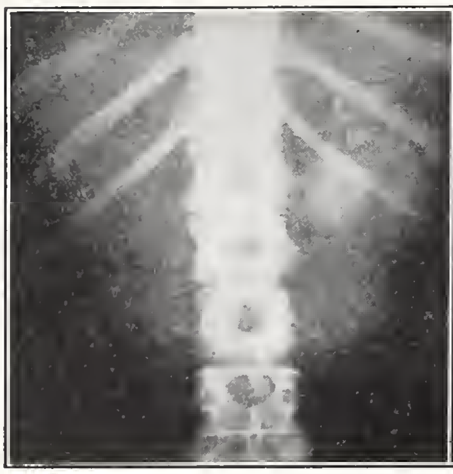

Fig. 3. — Hypernephroma of left adrenal gland, causing marked downward displacement of the kidney and spleen.

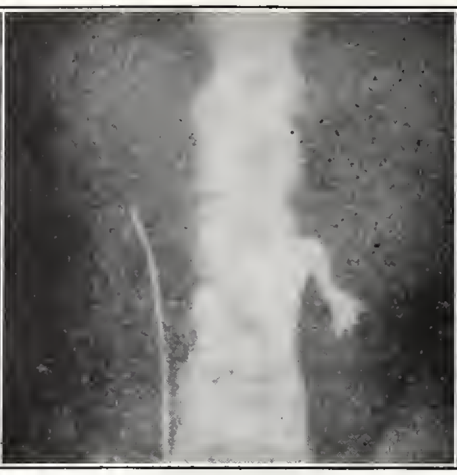

Fig. 4.—Same case, only the lower calyx of the displaced kidney is outlined in the pyelogram.

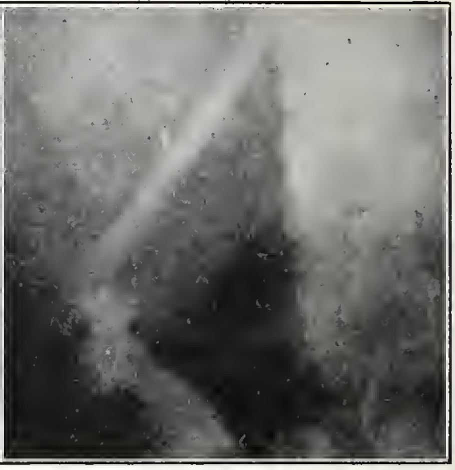

Fig. 5.—Reniform mass containing discrete calcifications. Inactive echinococcus cyst found at operation.

In pathologic conditions of the liver a sense of fullness is felt in the upper abdomen, and pain or soreness, if present, are nearer the midline. Anorexia, nausea, vomiting, and weakness are common, and jaundice is usually present. Examination of the blood reveals an increase in the icteric index, and bile pigments are found in the urine. Anomalies of the liver are frequently present without subjective symptoms.

PANCREATIC AND RETROPERITONEAL TUMORS

Cysts and malignant tumors of the pancreas and retroperitoneal tumors are occasionally mistaken for kidney growths. Pyeloureterography will usually exclude the latter, however, although pressure on the right ureter from a pancreatic growth may be responsible for hydronephrosis. Pressure on the common duct produces jaundice and other symptoms due to obstruction.

A case which I saw while visiting a foreign clinic some time ago is interesting in connection with retroperitoneal growths.

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Case 7.—The patient, a woman fifty years of age, complained of a "lump" in the right side of the abdomen. Examination revealed a somewhat sensitive, slightly movable mass about ten centimeters in length and five centimeters in breadth, occupying part of the upper and lower right abdominal quadrants. The center of the mass was on a level with the umbilicus. A catheterized specimen of bladder urine contained a number of pus cells. A gynecologist and his assistant made a positive diagnosis of tumor of the kidney, and did not consider other diagnostic measures necessary. Operation, however, revealed a retroperitoneal lymphosarcoma.

This error would have been avoided had pyeloureterograms been taken. These will reveal a deformity of the renal pelvis in almost every instance in the presence of tumor of the kidney.

TUMORS OF THE ADRENAL GLANDS

Deformity of the kidney pelvis in the absence of renal pathology may be caused by pressure from tumors of the adrenal glands.

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Case 8.—A married woman, twenty-nine years of age, stated that two years previously she had suffered from pain and swelling in the upper left quadrant, burning pain on urination and fever. The urine contained blood and pus. The symptoms continued for two weeks. She had been in good health since that time except for occasional slight pain in the upper left quadrant until one month ago. Since then she had complained of pain and swelling in the left lumbar region. Palpation revealed a mass to the left of the umbilicus. The lower pole of the left kidney could apparently be felt above this mass. The urine contained a few leukocytes. The first x-ray report was as follows: Left urinary tract plain (Fig. 3) and injected (Fig. 4). After injection through ureteral catheters a part of the left kidney pelvis is outlined, with one calyx, apparently the lower major calyx. This calyx connects with a kidney-shaped but rather small organ which is situated close to the left side of the spine at the level of the third and fourth lumbar segments. The spleen-shaped shadow which lies to the left and below this small kidney is probably the spleen, displaced very far downward from its usual position. Above the small kidney described there is a large mass which is interpreted as another left kidney connecting with the same pelvis. Within what would be the pelvis of this larger left kidney there are opacities characteristic in shape of lobular calculi in a kidney pelvis. A suggestion of outlines of calyces by stones is obtained. It is of course possible that this larger kidney has a separate ureter, but the position of its pelvis, outlined by the stones it contains, and the fact that only one calyx is reported in the kidney pelvis as outlined by the injected material, suggests that the larger kidney on the left connects with the same pelvis as the small kidney.

Conclusions: Two kidneys or double kidney on the left, the lower and smaller one normal but displaying only one calyx. The larger one uninjected but with its pelvis partially outlined by multiple calculi. There is also demonstrated a marked displacement of the spleen. A normal appearing right kidney shadow is demonstrated. The next x-ray report, taken a few days later, showed the same appearance as before. The injection was unusually complete, the ureter being filled down to the bladder. No secondary ureter was demonstrated. A little iodid had run into the right kidney pelvis also, but not sufficient to demonstrate it satisfactorily. The x-ray films taken eight months later showed a shadow in the upper left side of the abdomen which was interpreted as a large diseased left kidney, while the smaller kidney-shaped shadow immediately caudad to it was known to be a kidney because of the findings in the previous pyelograms. The shadow interpreted as spleen, displaced downward, was again demonstrated. The calcifications in the upper left kidney had increased in density and amount since the last examination. The appearance of these calcifications and their growth strongly suggested tuberculosis. The guinea-pig test, however, was negative. Kidney function was slightly less on the left side. Operation was refused.

Diagnosis: Either a supernumerary kidney or a double kidney on the left side. Calcifications in the upper kidney. Autopsy showed the mass interpreted as an additional kidney on the left side, or the larger upper portion of a double kidney, to be a hypernephroma of the left adrenal gland with metastases in the lungs and lymph nodes of the mediastinum and neck.

* * *

Case 9.—The differential diagnosis was also interesting in one of my cases in which pigmentation of the skin and high blood pressure were suggestive of tumor of the adrenal gland, while marked deformity of the left renal pelvis and absence of function in the corresponding kidney pointed to a renal tumor. Autopsy revealed an enormous hypernephroma of the left adrenal.

The most common subjective symptoms of adrenal tumors are weakness and loss of weight due to the accompanying anorexia, also vomiting, diarrhea and pain, the latter usually extending from the upper lumbar region toward the corresponding shoulder and across the abdomen. The objective symptoms, in the order of their frequency, are a palpable mass, pigmentation of the skin, hematuria, elevation of temperature, and premature sex development. Pus, albumen or casts are occasionally found in the urine and deformity of the renal pelves, disclosed by pyelography, is not uncommon.

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Case 10.—A married woman, forty-seven years of age, complained of pain in the right lumbar region which had progressively increased in severity during a period of five years. Palpation revealed an indefinite, nonsensitive mass in the upper right abdominal quadrant which was also easily palpated in the right lumbar region. The urine contained sugar and a few pus cells. On x-ray examination a reniform tumor (Fig. 5) containing discrete calcifications in its center was found in contact with the diaphragm on the right side. The duodenal cap showed a pressure defect suggestive of gall-bladder disease. Both kidney urines contained a few pus cells, the right more than the left. The function of the right kidney was slightly less than that of the left. Pyelography showed normal renal pelves. Operation revealed a smooth, somewhat kidney-shaped mass, 9 by 7.5 by 5 centimeters in size between the parietal pleura covering the diaphragm and the diaphragm itself. This was removed. On examination for pathologic changes it was found to be an inactive echinococcus cyst.

CALCIFIED GLANDS AND PHLEBOLITHS

Calcified glands and phleboliths are frequently responsible for shadows in the region of the kidneys and ureters, and regardless of how certain the urologist may be that a stone is present, pyeloureterography is always indicated.

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Case 11.—One of our patients complained of frequent urination, dysuria, and pain in the lower right abdominal quadrant. Prior to injection of the renal pelvis the x-ray film revealed a shadow in the kidney region that was very suggestive of a stone. It proved to be a calcified gland. The urinary symptoms were apparently due to cystitis and urethritis.

Lesions of the lungs and pleurae are occasionally responsible for symptoms suggestive of urinary tract or abdominal pathology. Pneumonia is occasionally responsible for pain in the lumbar region and if not suspected may be overlooked. One of my colleagues was much chagrined recently when an internist called in consultation found this to be the sole etiologic factor. There was no urinary-tract pathology.

Chute[6] reported two interesting cases in which pain in the left groin was due to splenitis. A lesion of the kidney was at first suspected.

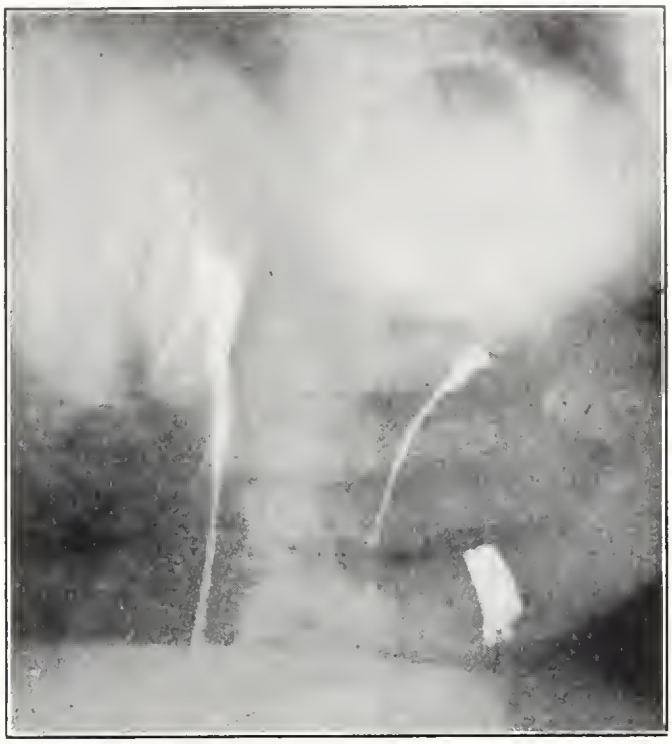

Fig. 6.—Obliteration of the middle calyx of the right kidney. Very little enlargement of the kidney notwithstanding the presence of a tumor.

COEXISTING LESIONS

The possibility of pathologic conditions and anomalies of both urinary tract and adjacent organs is to be considered when the question of diagnosis arises. Concomitant lesions of the right kidney and biliary tract, for instance, are not infrequently encountered. The following cases are interesting and instructive in this connection.

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Case 12.—Mrs. A. D., seventy-eight years of age, a widow, complained of blood in the urine and frequent urination of one month duration. One and one-half years ago she had passed blood in the urine for about a week. A fairly firm, nonsensitive movable mass with rounded edge was found in the right side of the abdomen on palpation. Its lower margin extended below the crest of the ilium. Cystoscopy revealed a small hemorrhagic area on the bladder wall below and to the left of the right ureteral orifice. The urine from the right kidney contained a large amount of blood. The x-ray films showed a right kidney outline that was smaller than normal. Following another x-ray examination three weeks later, however, the shadow of a mass the lower border of which extended below the crest of the ilium, was detected. This was apparently a Riedel's lobe of the liver. Pyelography (Fig. 6) showed the absence of the middle calyx of the right kidney. The other calices were drawn out and obliterated. Diagnosis: Tumor of the pelvis of the right kidney. Riedel's lobe of the liver. Operation was refused.

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Case 13.—Another patient with multiple lesions and in whom the diagnosis was at first uncertain suffered from rotation of the kidney due to fixation of the right ureter just below the ureteropelvic junction, stone in the left ureter, hypertrophic cirrhosis of the liver, and diabetes.

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Case 14.—A male patient, fifty-two years of age, complained of periodical attacks of slight pain or aching in both lumbar regions and the upper abdominal quadrants. These occurred more frequently on the right side. He had passed a small stone twenty-eight years previously. Examination revealed a median bar at the bladder outlet, slight strictures of both ureters, and bilateral pyelonephritis. Complete relief of the bladder obstruction followed excision of the bar with the Collings electrotome. The infection disappeared and the pain decreased following dilatations of the ureters and irrigations of the kidney pelves. An attack of jaundice accompanied by a sensation of fullness over the liver and loss of appetite called attention to the biliary tract. The pain disappeared completely following treatment for a concomitant hepatitis.

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Case 15.—A woman, sixty years of age, complained of knife-like pains in the right abdominal quadrants of three months' duration. There was tenderness over the gall-bladder region, but no other symptoms of biliary-tract pathology. The urine contained two to three pus and blood cells in each high-power field. Cystoscopy revealed an injected bladder mucosa, edema around the left ureteral orifice, and a stricture of the left ureter. The function of the left kidney was less than that of the right. Both kidney pelves appeared normal following pyeloureterography. Temporary relief only followed dilatation of the ureter. A bismuth enema revealed a constriction at the sigmoid flexure. At operation, in addition to a small liver, general carcinomatosis was found.

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Case 16.—A married woman, fifty years of age, complained of attacks of pain in the left lumbar region and nausea and vomiting, since an operation for repair of acystocele and prolapse of the pelvic organs six months previously. The bladder had been irrigated because of pus in the urine on numerous occasions. She had been in the hospital several times for short periods. The urine contained an enormous number of pus cells. Cystoscopic investigation revealed an elevation of the trigone and lower portion of the bladder neck, an inflamed bladder mucosa, and a marked hydronephrosis with almost complete destruction of the left kidney. Improvement followed nephrectomy but she still complained of occasional nausea and vomiting, together with more or less general abdominal pain. About ten days after operation she became slightly jaundiced and an increased icteric index was found on examination of the blood. Recovery followed treatment for hepatitis.

CONCLUSIONS

A complete urological study is indicated in all obscure abdominal conditions.

The urologist should have some knowledge of all of the pathologic conditions of the abdomen and pelvis, as an examination of the abdominal and pelvic organs is necessary when the diagnosis of a reno-ureteral lesion is at all uncertain.

A diagnosis of chronic appendicitis should be looked upon with suspicion, and operation is not to be considered prior to a thorough investigation of the right kidney and ureter. Pain in the lower right abdominal quadrant is seldom due to disease of the appendix in the absence of other symptoms of this condition.

The urologist should be proficient in the interpretation of pyeloureterograms, as pyeloureterography is probably of more value than any other single procedure in the differential diagnosis of lesions of the upper urinary tract and in their differentiation from pathologic conditions of the abdomen and other organs adjacent to the kidneys and ureters. A complete history, careful physical examination and study of the laboratory findings should, however, always accompany this procedure.

Coöperation of the general surgeon, internist, gynecologist, and the urologist is very often indicated in the presence of symptoms suggestive of abdominal pathology.

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DISCUSSION

Charles P. Mathé, M. D. (450 Sutter, San Francisco).—We are indebted to Doctor Stevens for his timely paper clarifying the differential points in the diagnosis of diseases of the kidneys and ureters and those of the abdominal organs. Not many years ago, frequently the urologist was called for diagnosis on a patient on whom the surgeon had previously operated on one of the abdominal organs when the seat of the disease was actually in the kidney. In those days about the only patient referred for urological examination was one presenting the classical signs and symptoms of kidney stone. The differential diagnosis of diseases of the kidney and ureter is particularly hard when it occurs on the right side because of the presence of the liver, gall-bladder, and appendix. On the left side the spleen and pancreas offer less confusion. Often there is a concomitant infection of the gall-bladder, liver or appendix, and treatment, in order to be successful, must not only be directed to the kidney and ureter, but also to these other diseased organs. Fortunately, in recent years much has been done by urologists, internists, and surgeons to educate the general practitioner as to the importance of considering the kidneys and ureters when making a diagnosis of any abdominal condition. As a result of this education of the physician, urologists are now often called to assist in making the diagnosis before the operation. I recall a patient whom a very intelligent physician, residing in one of the neighboring towns of San Francisco, had sent to me because of tumefaction of the upper right abdomen accompanied by pain, tenderness in the costovertebral angle, chills, and fever. Urological investigation ruled out a kidney lesion, and a consultation with an abdominal surgeon revealed phlegmon of the gall-bladder. It was successfully removed and numerous adhesions of the gall-bladder and the liver to the right kidney were responsible for originally attracting our attention to the kidney rather than to the liver.

Doctor Stevens calls attention to the fact that a negative urine analysis does not exclude kidney disease, particularly in those patients in whom the ureter has been completely occluded by virtue of some pathologic condition. It is not uncommon to find a well-advanced tuberculous kidney in which the ureter has been entirely closed by advanced stricture formation. I recall a woman who had a calculous pyelonephrosis in which the ureter was closed and who had been unsuccessfully treated for Bright's disease over a period of eight years because of toxic nephritis. The kidney was sealed off and the pus, blood, and bacteria contained in this organ were prevented from entering the bladder. A large pyelonephritic kidney was removed after which the toxic nephritis existing in the opposite kidney cleared up.

I am glad to see that Doctor Stevens emphasizes the importance of taking ureteropyelograms in the vertical as well as the horizontal and Trendelenburg positions. Omission of this important point is responsible for the nonrecognition of many mobile kidneys in the past. Furthermore, a very important diagnostic point is lost if this procedure is not followed routinely. In 1925 I called attention to the fact that kidneys presenting cortical abscess formation, perinephritic abscess and perinephritis, were more or less anchored in place and did not even show normal mobility in the upright posture—a range of motion which varies from two to five centimeters in the average individual. This is of great aid in the diagnosis of obscure conditions such as cortical renal abscess, perinephritic abscess, and perinephritis. These are often incorrectly diagnosed and improperly treated because they have been confused with other diseases such as malaria, typhoid fever, and influenza.

Doctor Stevens' paper is of real value. It will aid the physician to bear in mind pathologic lesions of the kidneys and ureters when making an abdominal examination. It also emphasizes the important point that diseases might concomitantly exist in the kidneys and ureters and in the abdominal organs. As the result of this education, the pendulum is swinging the other way and an increasingly number of patients are daily referred to the urologist for diagnosis, and this specialist must be well up in the diagnosis of abdominal lesions in order not to confuse them with those of the upper urinary tract.

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Wirt B. Dakin, M. D. (606 Chapman Building, Los Angeles).—It has been my observation that the best informed internists and general surgeons are the first to secure the aid of the urologist in many of their more obscure and complicated cases with symptoms of diseases of organs adjacent to the upper urinary tract. They lose little time in informing these patients that it is advisable to have the services of a urologist to help with the differential diagnosis. The urologist, in turn, by working in coöperation with a good x-ray department, will soon have reliable data to offer that will confirm or contradict any findings submitted by the internist or surgeon.

Doctor Stevens' statement that in about 33 per cent of all patients entering the hospital with uncertain diagnoses urologic investigation is indicated is well worth remembering.

Unnecessary examinations of any nature are to be avoided, but we must not forget that a patient may have more than one ailment and the urologic examination may reveal that some pathologic condition in the genito-urinary tract needs attention before anything else is attempted.

Faulty interpretation of certain intravenous pyelo-ureterographic findings is mentioned by the author. This was anticipated by the urologists when uroselectan was first given to the medical profession, and especially when certain commercial laboratories began to use it. An occasional mistake in diagnosis is overlooked by our colleagues. At least some errors could be avoided if more diagnostic data were available. This is not always the physician's fault. Frequently, in one way or another, the patients do not coöperate.

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Louis Clive Jacobs, M. D. (Four-Fifty Sutter Street, San Francisco).—Dr. William E. Stevens' thesis is of extreme importance. It emphasizes the rapid progress which has taken place in recent years in the differential diagnosis and treatment of surgical pathology of the urogenital tract and adjacent organs. The demand for more accuracy in the diagnosis of diseased organs by the internist and allied specialists has resulted in the development of the specialty of urology.

The author's paper clarifies some intricate problems in differential diagnosis, and demonstrates a practical knowledge of physical clinical signs as well as a specialized understanding of urinary pathology.

The modern urologist must be competent to recognize urologic pathologic changes and to differentiate them. He has not only been trained in the use of the cystoscope, but can combine, when the occasion arises, his vesical instrumentation with the ureteral catheter and x-ray. He should be sufficiently conversant with human anatomy and physiology for purposes of orientation.

It is not unusual to see patients suffering from abdominal pain, associated with muscle rigidity, who are submitted to major operations such as appendectomies, hysterectomies, cholecystectomies, disregarding examinations of the urological tract. There is often muscular rigidity present in patients chronically ill for a long period of time due to the stricture of the ureter. They immediately respond when the ureter has been dilated and free drainage from the kidney restored.

The x-ray has been a valuable aid, both in diagnosis and therapy, especially when combined with the ureteral catheter or used in conjunction with retrograde or intravenous pyelography. Plain roentgenograms should be taken before resorting to pyelography, as occasionally some pathologic lesion is obscured by a shadow-producing drug.

Cystograms are invaluable for the study of vesical and extravesical pathologic changes in both sexes.

On account of the confusion at times in making an accurate differential diagnosis of appendicitis from ureteral pathologic changes or an abdominal tumor from a renal tumor, we must utilize every diagnostic procedure at our command. Every diagnosis made should be correlated by proper laboratory work.

ORGANIC SOMATIC DISEASES—ASSOCIATED WITH NERVOUS AND MENTAL DISTURBANCES*

By Julian M. Wolfsohn, M. D.
San Francisco

Discussion *by Thomas G. Inman, M.D., San Francisco; Samuel D. Ingham, M. D., Los Angeles.*

The relationship of organic somatic disease to the psychoses has long been sought. Hippocrates, two thousand years ago, stated that "the brain is an organ of mind; that any insane state is the result of the disturbance of this organ." He described many instances of this relationship to prove his theory, but it fell into the discard during the many subsequent centuries with but an occasional adherent. It was not really until one hundred years ago that mental disease was studied systematically, and since then we find that one by one the etiology of abnormal mental states was discovered and properly classified. This obviously tends to simplify the conception of psychiatry as a whole, and links it more closely to other better understood divisions of medicine, namely, medicine proper and surgery.

SCOPE OF THIS DISCUSSION

It is not the purpose of this paper to enter into an exhaustive treatise on the development of psychiatry, but to try to bring forward the experiences of others and myself with psychoses related to somatic disease and finally to theorize on the probable mechanisms at work.

Fifty-five years ago Maudsley, speaking of body and mind, said: "The immediate business which lies before anyone who would advance our knowledge of mind, unquestionably, is a searching scrutiny of the bodily conditions of its manifestations in health and in disease. The brain is the seat of the psyche, but the functions of mind are dependent upon the whole body and the harmonious interaction of all its parts."

Formerly it was taught "mens sana in corpore sano," which implies a healthy mind dwelt in a healthy body. We all agree that a diseased body can possess a healthy mind, and vice versa. Many persons with apparently healthy bodies, as far as we can determine, possess disordered minds of varying degrees and kinds including the neuroses, psychoses, et cetera. It is to the future that we look for discoveries in biochemistry and biophysics to elucidate conditions which are dependent on hereditary and acquired bodily defects. Just because they have not already been found, is no argument that they do not exist.

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* Read before the Neuropsychiatry Section of the California Medical Association at the sixtieth annual session, San Francisco, April 27-30, 1931.

Today mental disturbances are being attacked not only along biologic, biophysical, and biochemic lines, but also, and to a much less extent than a decade or two ago, from the psychologic aspect.

Bernard Hart suggests that "causes now called psychical may ultimately be capable of expression in anatomical and physiological language." The mere process of formulating an idea which in turn demands "attention" implies a physicochemical change in some part of the brain. If there are normal brain cells and normally functioning association systems, the individual is adjudged mentally normal. If otherwise, we say he is suffering from a neurosis, a psychosis, or other abnormal mental state. One should thus start with the theory that purely organic conditions are the determining factors in all abnormal mental states.

In these days when the stress of modern life of this machine age is of increasing importance, we should expect, and in fact we do find, a proportionate increase in abnormal mental states produced in many cases primarily through psychical channels, and secondarily, the ulterior effects producing endocrine dystrophies, gastro-intestinal intoxications, chronic infections, and other conditions. These etiological agents for some mental disorders are accepted by all. How these factors enter into the problem will be discussed later.

Monrad Krohn says of the so-called functional mental disorders: "The only thing we know is that they, as a rule, are unaccompanied by organic change so gross that they can be discovered by the means at present at our disposal. Until we find reliable methods of studying the prenissl stages of cell degeneration, we have obviously no right to deny the possibility of organic change."

We all accept the organic origin of such mental disorders as the presenile and arteriosclerotic psychoses, the infective, exhaustive, and toxic psychoses; but it is the more subtle functional mental disorders in which an explanation of the processes causing the disorder is necessary.

Dr. Henry Cotton of Trenton, and others, have preached for years that organic causes have a remote influence on cerebral cells.

Cotton claims to have effected cures in 87 per cent of his cases by removing foci of chronic sepsis which he was able to locate in septic teeth, tonsils, and colons. His remarkable results have not been so successfully repeated by other workers, but everyone accepts the importance of his tenets.

With this important subject in mind the writer has selected from a large series six cases of organic somatic disease, which when removed the associated mental symptoms rapidly disappeared, and the patients have remained symptom free for at least six years. The possible explanation for these results, which no doubt can be duplicated by others, will be attempted after the exposition of the following cases.

Note: In the cases reported below, all laboratory work including urine, stool, Wassermann, basal metabolism, blood count, x-rays, including the skull and, when indicated, the gastro-intestinal system, were reported normal in every instance.

REPORT OF CASES

Case 1.—Manic depressive psychosis, manic phase, in a young woman eighteen years of age. Neuropathic family history. This patient was always sensitive, made friends easily, but her feelings were readily hurt. Not inclined to worry. Her past history was uneventful.

The onset of her psychosis appeared rather suddenly with a marked motor and psychic restlessness which evolved into a maniacal state. She became delusional, would lie for hours on her bed with arms stretched in the form of a cross, draped herself with flowers and ornaments, and then would suddenly tear her hair and pace up and down her room for hours talking to imaginary people, etc. Her condition, in spite of the usual treatments, remained more or less constant for one year, when, during an abdominal examination, she evinced great pain on deep pressure over the right lower abdominal quadrant. There had been no abdominal complaints at any time previously.

At operation there was found an old walled-off retrocecal abscess containing four ounces of thick malodorous pus from a previously ruptured retrocecal appendix, no doubt of long standing and which must have been present for much longer than one year. Within two weeks of operation, without any other form of treatment, the patient recovered her mental faculties and has been well to date, a period of ten years.

* * *

Case 2. — Manic depressive psychosis, depressed phase in a woman twenty-nine years of age. One child living and well. Family and past histories uneventful, except that the patient for a few years prior to onset of present illness liked to be by herself, was morose, and occasionally complained of pains preceding the menstrual period. The onset of her illness was indefinite. She became more morose, suffered from insomnia, lost interest in life, imagined she had done many indiscreet things for which she was now being persecuted. There was only partial insight. During the four years in which she was constantly in this depressed state, she had attempted to destroy herself three times, besides breaking a thermometer purposely and swallowing some of the glass. At this time physical examination was quite negative, except for large, swollen, tender ovaries, worse on the right side.

At operation several cysts, measuring two inches in diameter, and many smaller cysts were removed from the ovaries. The patient convalesced normally, and without other treatment returned to her home three weeks later. Her mental state has been quite normal during the past six years. There has been, however, a tendency to easy exhaustion only.

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Case 3.—Psychasthenia in an intelligent man, sixty years of age. This patient for ten or twelve years was irritable, suffered from obsessions, fears of crowds, closed places, and from easy fatigue. Examinations had never disclosed any physical abnormalities. Psychotherapy had been tried on several occasions for prolonged periods. Temporary relief only was obtained.

On examination the only abnormal finding was a very large prostate gland, hard on palpation over the right, and rather succulent on the left. Very little residual urine was found. No dysuria. The prostate was removed finally, and eight weeks later the patient returned home and has been, to all intents and purposes, mentally stable during the past seven years.

* * *

Case 4.—Manic depressive psychosis with melancholia and confusion in a woman, fifty-six years of age. This patient claimed never to have been sick in her life until one year after her menopause, at the age of fifty-three. She was always lively and considered the life of the party socially—not depressed or sensitive. Family history and past histories unimportant, except for chronic constipation.

Between fifty-three and fifty-four years of age she became gradually peevish and irritable, had some insomnia, and "bad breath" was complained of. She began to shun society, much to the surprise of her friends. She lost interest in things she formerly loved to do—would not read, and would sit for hours looking into space and appearing quite confused. Her speech was reduced practically to monosyllables. Food became very distasteful. Only slight relief was obtained by the usual methods adopted for mental cases of this kind. This patient was placed in a sanitarium.

On examination the patient exhibited the melancholic habitus. Physical examination was negative, except for large septic protruding hemorrhoids. These were removed and five weeks later all of her mental symptoms disappeared, and she has returned to a modified social life which has kept her quite normal and happy during the past six years.

* * *

Case 5.—Manic depressive insanity, depressed phase, in a young woman twenty-seven years of age. This patient was a school teacher, inclined to be always overscrupulous. Rather decided in her opinions. Inclined to brood, but had had no need of medical attention until she was twenty-five and one-half years of age. Gradually began to tire easily, and suffered from insomnia. Her school work was too arduous, her pupils trying. She began to brood and suffered from vague abdominal symptoms. Would cry at the slightest cause, and would suffer from waves of depression.

In one and one-half years, according to her statement, "I have seen very few hours of sunshine."

On examination the only positive findings were six devitalized infected teeth, and buried infected tonsils, which were removed; the teeth first and the tonsils two weeks later. After an interval of one month she volunteered the information that she felt well enough to be without further medication, or medical care, and has been mentally well for the past six years.

* * *

Case 6.—Neurasthenic state, severe, with hypochondriasis in a young man of twenty-four, who for eight years had been a sufferer from marked gastric distress, acid eructations, coated tongue, capriciousness in food selections, headaches, burning sensation of the skin, and easy fatigue. Patient would wake up tired, and had a rather pessimistic outlook on life. His hands and feet were always cold and clammy, even on hot days, and his heart "throbbed" on the slightest exertion. His previous history was unimportant, except for the fact that he was always nervous and worrisome.

On examination the positive findings included a fine rapid tremor of his cyanotic, cold, clammy hands. An enlarged soft thyroid gland, and large imbedded tonsils, the right one of which when pressed showed the presence of a deep collection of greenish fluid pus with bad odor. These tonsils were removed, and x-ray treatment was applied to the thyroid gland. In three months, during which time the patient received no other treatment than that which he had taken previous to the operation, he had lost practically all of his gastric and vasomotor symptoms. He gained twenty-two pounds in weight, and during the past eight years has not had need of treatment for his previously incapacitating condition.

COMMENT

The symptoms presented by patients, reported on Cases 2, 3, and possibly 4, were primarily caused by somatic nonseptic processes located in and about the pelvis, which is so richly innervated by the vegetative nervous system. The constant morbid increased pressure on these nerves produces an irritation or perverted stimulation instead of normal, healthy impulses. Varied amounts and kinds of irritation, in susceptible individuals, results, in turn, in a conditioned reflex of abnormal character, which affects not only the whole vegetative nervous system, but also the endocrine system and ultimately the neurones of the central nervous system itself.

We must accept as axiomatic that causes remote from the central nervous system cannot produce nervous or mental symptoms directly. The above mentioned causes produce a chronic fatigue state which lowers the resistance of the nerve cells in question to the point when toxic effects originating within the cell itself, or from toxins arising outside the cell, take place.

The relationship of infected foci in patients reported as Cases 1, 5, and 6 to the mental symptoms can just as readily be accepted. Cotton and others have detailed numerous such recoveries. Anatomical lesions in organs other than the nervous system, especially "septic foci are known to change the metabolism, contaminate the blood with abnormal products which disturb the chemical exchange and nutrition of the brain cells." As Cotton says, "We may get a direct action on the cerebral elements by the morbid agents carried directly through the circulation—toxins or microorganisms."

From these cases we can see that the symptoms, sometimes of a profound character, even though lasting for twelve years, may not be associated with permanent changes in the nerve cells. However, in other cases the changes in the brain may be permanent, so that repair after the elimination of the exciting cause, whether of toxic or other nature, is no longer possible, and accounts for some of the incurable cases.

In all the cases cited, mental distress, such as mental shocks, chronic worry, and disappointments were present, preceding and including the psychotic episode. It is hard to believe that ideational factors produce the nervous symptoms directly, but that they bring into being changes in the endocrine system which, in turn, affect the vegetative nervous system, and finally the cortical neurones, which produce the sensations, stimuli, or ideas which we interpret in the patient as symptoms of his disorder. The mechanism may also be explained by a lowering of the bodily resistance due to the above changes, so that the patient's immunity to infection disappears, and what was a latent process suddenly becomes active and attacks the cortical cells, as Cotton has pointed out.

One does not believe it to be straying far from facts to state that, though a psychogenic factor may be the "last straw" in precipitating a psychosis in a susceptible individual, the real origin of the morbid condition is an intracellular biochemical disturbance of the cortical neurones, endocrine dystrophy, or disturbed metabolism of tissues not yet suspected of complicity, which may or may not produce permanent or transient changes in the cortical nerve cells. This explanation may account for some cases of manic-depressive insanity in remission, or in certain other periodic psychoses or neuroses. To prove this the pathologist and biochemist will have the last word.

In other words, we can consider that diseases of special organs, especially about the pelvis, and general ill health from lowered vitality, precede and become the cause of morbid states of the brain which end in neuroses or psychoses.

CONCLUSIONS

1. It is our duty as physicians to practice general medicine in its broadest sense in order to see whether or not any bodily condition is present which can act as a cause or contributing factor in the production of abnormal psychic states. In many cases the patient is unaware of any physical cause which may have a bearing on his mental state.

2. Six cases of mental disturbance, including the neuroses and psychoses, are presented in which the symptoms were present for long periods. Shortly after the removal of the offending physical causes, a remission, which in each patient has persisted for over six years, was produced.

3. We will advance further and more quickly toward control and limitation of mental disturbances if we study from all angles at our disposal the physical influences and also, to a less extent, the subtle moral influences which play a rôle in their production.

4. Insanity is a bodily disorder, a disease of the brain in which certain changes have taken place. This implies a departure from healthy physiologic action. In consequence of these changes there is a more or less prolonged disturbance of mind.

5. Disease of any part of the organism, including the brain, may be the cause of insanity. In such cases the mental disturbance will not be manifested until the specific cells of the brain controlling thought and ideation are affected.

490 Post Street.

DISCUSSION

Thomas G. Inman, M. D. (2000 Van Ness Avenue, San Francisco).—With the main argument advanced by Doctor Wolfsohn there should be no disagreement. The mentally disturbed patient is entitled to the same careful medical survey accorded to individuals whose complaints suggest the presence of somatic disease. Infectious processes, circulatory disturbances, endocrine dysfunctions and painful or irritative disorders are frequently found in association with grave mental derangement. Whether the latter depends solely upon the physical disease or is only set free by it, is beside the question. It is sufficient for the moment that the individual be returned, if possible, to his former condition of health.

When we consider the specific effect of certain known chemical substances upon the mental functions, it is easy to imagine that deleterious materials produced within the body might also act in a definite and specific manner. Mind, as we know it, is a product of brain function and, to a large extent, the mental qualities exhibited by an individual depend in some way upon the anatomic construction and physiologic function of that individual's brain. It is to be expected, then, that noxious substances produced within the body may so interfere with the functions of the brain that it is no longer able to act in an orderly fashion.

But if the fairly constant effects upon cerebral function caused by hyper- and hypothyroidism be excepted, and the toxic, arteriosclerotic and luetic psychoses be excluded, there still remain a group of psychoses and neuroses the causes of which seem to lie entirely within the ideational domain of mind. To determine the true nature of the psychologic disturbance is the first objective of the neuropsychiatric examination. If it is possible to differentiate between a primary and secondary mental disorder the patient may be saved much valuable time and expense, ill advised operative interference may be prevented, and suitable treatment instituted at once.

An inherent weakness in psychiatric diagnosis lies in the lack of reliable working models, psychologic constants, or fixed mental patterns the recognition of which will surely lead to a diagnosis of the malady in question. To some extent modern psychologic studies have seemed to make the vision a trifle clearer and may eventually bring about a better understanding of the nature and causes of the psychoses. Until that time careful elimination of somatic disease along the lines suggested by Doctor Wolfsohn will be in order.

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Samuel D. Ingham, M. D. (727 West Seventh Street, Los Angeles).—The case histories presented by Doctor Wolfsohn emphasize the importance of various pathologic conditions remote from the brain as etiologic factors in the production and maintenance of abnormal mental states. Although everyone will probably agree with this point of view, the subject still justifies the emphasis. Patients who are stigmatized with the diagnosis of mental disturbance too frequently do not receive adequate diagnostic attention. Doctor Wolfsohn touched but did not enlarge upon the subject of the theory of a physical basis for psychoses in general. During the present century the list of so-called functional nervous conditions has diminished, due to the recognition of the organic bases of their existence. Paresis, Parkinson's disease, chorea, tics, torsion spasm, paramyoclonus and dystonia are now recognized as organic diseases. Of the psychoses it may be stated that dementia praecox, manic-depressive insanity, the paranoid and hysteroid psychoses, are about the only forms not definitely attributable to organic disease. Further advances in our knowledge of the life activities of and the disturbances affecting the nerve cell in terms of biochemistry and physics will further reduce the list of "functional" nervous diseases. This knowledge will also facilitate our intelligent treatment of these conditions.

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Doctor Wolfsohn (Closing).—I want to thank Doctors Inman and Ingham for their discussions of my paper, which make me feel that I have merely brought again to the attention of the members of this section a subject that needs to be further threshed out.

If we accept mental patients and treat them as such, not putting our best efforts toward bringing out any factor which might tend to even exaggerate the mental symptoms or displace the nervous system and make it more susceptible to any noxious process going on in the body, we are not advancing at the same rate as those who are treating patients in general medicine and surgery.

My spoken admonition in the treatment of mental patients is: "Go the limit of medical and laboratory examinations before treating the patient himself from the mental angle."

HEMOTHORAX AND HEMOPERICARDIUM*

By FRANK S. DOLLEY, M. D.
Los Angeles

DISCUSSION *by Philip Stephens, M. D., Los Angeles; A. Lincoln Brown, M. D., San Francisco.*

A SMALL penetrating wound of the chest wall with a comparatively trivial lung injury may, by the outpouring of blood and air into the free pleural cavity, result in pneumothorax, hemorrhage, and early death. A very small stab wound of the chest wall, entering the lung narrowly, may result in tension pneumothorax with so great lung collapse and mediastinal displacement that death soon occurs. The kind of trauma in thoracic injuries plays a secondary rôle; it is the mechanical results of the injuries that are important.

The treatment of hemothorax falls, naturally, in two phases: primary, or treatment immediately following injury; and secondary, or treatment forty-eight hours or longer following injury.

IMMEDIATE TREATMENT

Hemothorax, when the patient is first brought under the care of the examining physician, unquestionably calls for careful consideration of the various accompanying complications, one or more of which invariably are present. The more experience the doctor has had in the care of severe injuries of the chest the more able is he to evaluate the various signs and symptoms present. It is very important to remember that a concealed hemorrhage into the pleura may be masked until too late by other more evident symptoms. It is essential, therefore, that there should be called in immediate consideration, besides hemorrhage into the pleural space, commotio thoracis, compressio thoracis and pneumothorax, and the influence of these accompanying conditions, if they be present, upon the general condition of the patient in so far as it is possible to accurately correlate them. Without such an evaluation the proper immediate treatment of an existing hemothorax may lead to very grave complications.

COMPLICATIONS OF EXISTING HEMOTHORAX

Let us, then, for the moment consider these possibly accompanying complications. It is because the three conditions mentioned above may in their clinical aspects very closely resemble or effectually hide an extensive hemothorax that their symptoms need at this time to be considered.

Commotio Thoracis.—Commotio thoracis in its symptoms is so much like commotio cerebri that it is by no means certain that the same nervous mechanism is not responsible. Following a blunt injury of the chest the symptoms may so closely resemble those of exsanguination as to make differentiation difficult. The injured person sinks suddenly to the ground senseless, the skin is pale and cool, pulse scarcely palpable and is strikingly slow and irregular, breathing is superficial and of varying frequency. Often there is evident anemia, tremor, hippocratic facies, and air hunger. It is a condition that may effectually disguise an intrapleural hemorrhage that is rapidly leading to death.

In *compressio thoracis,* on the other hand, the skin is blue and livid due to the compression of the great veins within the chest. Because it is rare not to have other intrathoracic injuries, the extreme lividity of the skin, which is due to actual hemorrhage from the capillaries, may so treacherously disguise the degree of exsanguination from concealed hemorrhage that death may occur before the amount of bleeding is actually appreciated.

Pneumothorax from Torn Bronchi.—If the bleeding is of pulmonary origin, air from the torn bronchi is often present within the pleural cavity with the blood. The air rising above the blood in the pleural cavity gives hyperresonance to percussion well back to the midaxillary region in a patient lying supine. An extensive pneumothorax combined with commotio thoracis, therefore, may effectually conceal an intrathoracic hemorrhage that is rapidly leading to exsanguination. It is to be remembered also that a tension pneumothorax may exist with pressure so great that the percussion note may vary little from the normal note or may even be flat. Often exploration with a needle is life-saving if blood or air is suspected.

Patients with severe chest injuries are almost invariably suffering from commotio thoracis to a greater or lesser degree. It is impossible to judge at first whether thoracic shock or hemorrhage is the more responsible. The patients are usually in considerable pain, are much agitated, and very apprehensive. The administration of morphin hypodermically in full doses until the patient's respirations have dropped to below thirty is often of dramatic benefit to the patient and of great aid in the differential diagnosis for the doctor. The symptoms of thoracic shock, so closely resembling those of extensive hemorrhage, as a rule are markedly lessened while those due to hemorrhage are little affected. If there is thoracic shock, the patient becomes more quiet, there is less disturbance of intrathoracic organs, and respiration decreases in depth and frequency. The evidences of extensive hemorrhage are, then, much more easily recognized. The coughing reflex is remarkably lessened, the color more nearly approaches normal, provided the hemorrhage is not great. Do not allow the prominence of abdominal symptoms, of chest pain, of cerebral injuries and fractured extremities to deflect from the consideration of an extensive concealed intrapleural hemorrhage. When in any doubt as to the presence of blood or air in the pleural space, aspirate.

When, however, the various conditions are considered and their places in the clinical picture recognized, the importance of the rôle of the hemorrhage can be more clearly appreciated. One may lay down as a working rule that the important thing for consideration is not the amount of blood present in the pleural cavity at the time of the initial examination, but the rapidity with which the amount increases.

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* Read before the Industrial Medicine and Surgery Section of the California Medical Association at the sixtieth annual session, San Francisco, April 27-30, 1931.

HEMOTHORAX

The extent of the hemothorax is determined as accurately as possible and an hourly check on this amount is kept, provided evidences of hemorrhage are definite. Neither the absence nor presence of blood by mouth nor its amount is a reliable criterion of lung injury or of the amount of bleeding into the pleural cavity. It is the rule, following intrapleural hemorrhage, for the pleura to respond by an outpouring of serum. During the first few hours, therefore, this serous effusion may be sufficient to perceptibly increase the amount of fluid within the chest. Allowance should be made for this. This increase may be as much as 10 per cent. If, however, there is a continual rise in the level of the fluid, if respirations are becoming more rapid, if mediastinal pressure symptoms are developing and the general signs of bleeding are continuing, there should be no further delay. An intrathoracic exploration in the attempt to find the bleeding point should be done at once.

As a rule it may be said that hemorrhage from injury to the lung itself rarely requires surgical intervention since the blood pressure in the lesser circulation is approximately one-sixth as high as in the general circulation. The arrest of the hemorrhage, therefore, is almost always spontaneous. If, however, a vessel in the neighborhood of the hilum or the pericardio-phrenic vessels on the lateral wall of the mediastinum or the internal mammary or the intercostals are injured, bleeding is continuous to exsanguination unless the injured vessel is exposed and ligated. It is during the first few hours following injury that the patient should be watched constantly, not through telephone bulletins from the nurse in charge, but by actual examination by the doctor, who retains clearly in his mind the picture of the patient when first seen by him, for it is the change for the worse in the patient already seen that is of life-saving importance in deciding whether or not immediate exploration should be done. Pain in the shoulder region, increasing dyspnea, and collapse almost invariably mean suddenly increasing hemothorax. The nurse in attendance should be instructed to report the onset of such symptoms at once.

Often the location of a penetrating wound may strongly suggest the bleeding as coming from an internal mammary or an intercostal vessel. These vessels are seldom injured without injury to the pleura. The point of exploration, then, may be directly over the point of entrance of the penetrating instrument. If the bleeding is found to be from an intercostal vessel, always resect a portion of the rib overlying so that satisfactory exposure may be obtained. Intercostal bleeding is particularly dangerous posteriorly. If the internal mammary is suspected, make the incision parallel with the rib to the sternum. If the bleeding point is not safely exposed, tie the vessels in the intercostal spaces above and below. It is not safe to depend on packing alone, for the hemorrhage may stop for ten days and then begin again. If, however, there is little to guide one in regard to the location of the bleeding vessel, a wide incision should be made in the region of the sixth or seventh rib. I have found it much more satisfactory in the exploration and subsequent closure of the chest wall to resect a rib through the extent of the incision and enter the chest through the rib bed. An intercostal incision may be made, however. The lung collapses immediately following opening of the chest. Usually the bleeding vessel is at once seen. Positive intrabronchial pressure is maintained by the anesthetist immediately the bleeding point is found. It is amazing often how quickly the general condition of a patient improves with lung reëxpansion and relief of mediastinal compression. The wound in the chest wall should be closed tightly without drainage. If a hole in the lung is discovered, it should be repaired; ragged edges of fractured ribs trimmed down; spicules of bone and torn tissue removed. If it is not deemed necessary to maintain the lung collapsed on the affected side while a repaired tear in the lung is healing, then after closure of the chest wall, air should be at once aspirated in order by pleural adherence to reduce the danger of empyema as much as possible and, in the event of its developing, the extent of the pleura involved. Hedblom found that the incidence of empyema is much greater when a pneumothorax is left after an intrathoracic operation than when it is aspirated. Whether exploration is decided upon or not, absolute rest, control of cough and agitation by means of full doses of morphin and constant observation are essential.

LATE TREATMENT

With the immediate danger of exsanguination past, what should be the ultimate treatment as regards the blood in the pleural cavity itself? Allen, and later Martin, recommend that penetrating wounds of the chest wall that do not suck should be left open and the patient turned so that the blood present in the pleural cavity may slowly leak out into the sterile dressings. If no small external opening exists, however, what then?

Before reaching a decision as regards its removal, we ask ourselves: How extensive is the hemothorax? Is its presence aiding in the control of hemorrhage within the lung itself? Is there a low-grade infection present within it or the lung, or does there seem likely to be? If left alone will the blood-clots within the chest organize, cause extensive adhesions between the visceral and parietal pleurae and result in progressive thoracic deformity?

It is held by many that the presence of a massive pleural effusion helps to tampon the bleeding point and, therefore, is an efficient aid in controlling intrathoracic hemorrhage. Certainly, in the presence of a bleeding vessel of considerable size in the chest wall, at the hilum, or on the mediastinal wall, the presence of this fluid can have little effect in controlling hemorrhage. Bleeding is progressive to death unless the bleeding vessel is ligated. In bleeding from the lung, on the other hand, it is very doubtful whether the presence of blood, even in large amounts, has an effect upon its control since with respiration, the pressure, even on the injured side, varies constantly with inspiration and expiration. It would seem to the writer, therefore, that after the first forty-eight hours, removal of the blood, even though the quantity may be large, has little effect on subsequent bleeding. The advisability of the replacement of blood with air still remains uncertain. The majority of men today feel that the removal of as much as possible of the blood present at one sitting is advisable rather than several aspirations with the accompanying increased danger of infection from without. The introduction of air to partially replace the fluid removed and to prevent too rapid reëxpansion of the lung beneath seems a logical and practical measure. We do know, however, that after pneumothorax of even a few days' duration, the formation of permanent adhesions between the two layers of pleurae is the rule and, since in the treatment of hemothorax all measures that contribute to pleural adhesions and possible subsequent chest deformity should be avoided, the writer feels that the replacement of fluid by air is less advisable than the aspiration of fluid in two stages, provided the amount present is great.

Heuer, Pratt, and Mason found that as a rule, following a hemothorax, even in small amounts, pleural adhesions obliterate the costophrenic angle and these adhesions continue many months or years, this whether the blood is removed or not. It has long been believed that blood-clots left undisturbed within the pleural cavity eventually organize, become adherent to the underlying pleura and result eventually, by the contraction of the pleura, in marked deformity of the chest wall together with subjective symptoms that are followed by varying degrees of incapacitation. Surely in a certain per cent of cases this is true. It is very questionable, however, if this development is usual. Garré has shown experimentally that whole blood removed from a dog and injected into its own pleural cavity resulted in no pleural irritation except for the moderate outpouring of serum.

Since, however, it is the rule following a hemothorax for an outpouring of serum from the pleurae to occur almost at once, it would seem that there must be some local pleural reaction which in a certain percentage of cases might result eventually in extensive pleural union. But though this pleural synthesis be extensive the writer feels it illogical to suppose that pleural obliteration in itself can be responsible for the tragic clinical picture that we too frequently see as the late result following an extensive hemothorax, the result of chest trauma. This picture, quickly drawn, is thus shown. The shoulder on the injured side is several inches lower and more posterior than the contralateral one. The affected side of the chest is flat, shrunken, immobile, the ribs are shingled closely one over the other, there is marked scoliosis with convexity to the affected side. Mediastinal structures may be pulled entirely into the involved hemithorax, the diaphragm is very high and immobile. The patient is emaciated, unable to work, and is expectorating ounces of pus daily. Extensive pleural union and subsequent pleural contraction has indeed contributed largely to this sad condition. The initial hemothorax left undisturbed surely played an important rôle. Yet it is illogical to believe that these factors alone are responsible. If so, why is there not extensive chest deformity and incapacitation after prolonged artificial pneumothorax treatment when the lung is allowed to reëxpand and pleural union is complete and permanent? There is an additional factor, then, that initiates the dreadful chain of complications. That factor is infection. Infection of the hemothorax occurring when the pleural leaves are widely separated or when the pleural leaves covered by fibrinous exudate are closely in apposition, or infection in the lung beneath with pleural irritation and extensive organization with progressive contraction. If there is extensive injury of the lung tissues beneath with evidence of pneumonitis and bronchopneumonia the danger of secondary infection into the blood within the pleural cavity is a very real one. Regularly with hemothorax the temperature goes to 100 degrees or 101 degrees daily. This we expect. The patient is not toxic, however. Within ten days the temperature rise should be slowly declining. If this decline does not occur or if actually his condition is becoming worse, intrapulmonary inflammation or an infection into the pleural collection of blood, or both, are to be strongly suspected. Often the temperature drops promptly to normal after the aspiration of the intrapleural blood. If empyema develops, the cavity is drained and little deformity is expected, provided the lung beneath recovers. If, however, a low-grade infection within the pleural cavity follows lung inflammation, the pleurae react strongly to this and extensive pleural synthesis is very liable to occur. Chronic progressive bronchopulmonary suppuration plays so often a fatal rôle in these unfortunate cases. The sequence of pathologic events is often as follows: chest injury; lung tear, hemothorax; pneumonitis or bronchopneumonia; extension of infection to pleura with resultant marked stimulation to the pleural surfaces and progressive organization of blood-clots; solid pleural union and progressive retraction of scar tissues, both of the pleurae themselves and bands extending thickly into the lung; gradual widening of infected bronchi by scar tissue contraction; bronchiectasis and chronic progressive bronchopulmonary inflammation; lung parenchymal contraction and pleural contraction; unilateral chest immobilization; rib overlapping and scoliosis.

If, then, one apprehends from the character of the injury, the degree of trauma and the evidences of underlying lung inflammation, that infection exists in the neighboring structures or is likely to develop, aspiration of the bloody fluid as completely as possible and as soon as possible consistent with the patient's safety is, in the writer's opinion, imperatively indicated. If it be true that the presence of blood-clots in the pleural cavity is not in itself particularly harmful without infection and there is little to suggest the danger of infection, it would seem unnecessarily radical to open the chest for removal of blood-clots as is advised by some men.

In a word, therefore, if immediately following the injury there is a progressive increase in the amount of blood within the pleural cavity and the patient's condition is becoming alarming, thoracic exploration should be at once done. If there is no marked increase in the size of the hemothorax and the injured patient is not worse, absolute bed rest, morphin in full doses, and attention to shock are indicated and are usually sufficient as far as bleeding is concerned. Aspiration at this time is not necessary. After two to four days, when the immediate effects of the injury are greatly lessened, aspiration should be done if there is a massive collection of fluid as one would remove such a collection were it serous. There would seem to be little danger by so doing of causing renewed bleeding. Fluid may be partially replaced by air, though in the writer's opinion there is less danger of permanent adherence of the pleurae if this is not done. Aspiration should be done if there are definite signs of an underlying inflammation in the lung. Aspiration should be done if on aspiration a positive bacterial culture is obtained from the fluid itself. If, however, there is but a small quantity of blood present, as determined by physical signs, and there is no evidence of lung inflammation and the patient's general condition is steadily improving, there seems little to indicate that extensive permanent union between the two layers of pleura will follow.

Indiscriminate operative measures unquestionably increase the mortality in chest injuries, but with evidence of internal injury with continuous bleeding or with badly comminuted or displaced ribs, or of lung injury, open the chest widely through a rib bed or an intercostal incision, remove blood-clots, repair lung, remove fragments of rib or raw broken edges, tie vessels and close chest wall tightly. Then remove the pneumothorax by aspiration.

HEMOPERICARDIUM

Normally there are only a few cubic centimeters of serum in the capillary-like space between the heart and the pericardium. The latter is so elastic, however, that 50 to 100 cubic centimeters of fluid may accumulate without giving symptoms. In larger amounts the heart is mechanically interfered with. When intrapericardial tension from hemorrhage becomes very great, death occurs. Morgagni first described this possibility and to it Rose gave the name "heart tamponade." He believed that the heart became so compressed that ventricular filling could not occur. This has been disproved. The idea of heart tamponade is an erroneous one. There lie in the pericardium portions of the great vessels—aorta, pulmonary artery and veins and the superior and inferior vena cavae. The veins are thin walled and the blood within is under little pressure. As blood accumulates within the pericardium the thin walled cavae are gradually narrowed, the auricles gradually collapsed and diastolic filling is thus seriously interfered with or prevented. There is a rise in the pressure in the body veins and a fall in the pressure of the arteries. It is a condition actually of heart strangulation rather than tamponade. The more acute the hemorrhage the more stormy is the clinical picture and the less the hemorrhage required to cause strangulation.

It is difficult to give a complete and satisfactory symptomatology of heart strangulation or tamponade. It is often exceedingly difficult to differentiate it from cerebral or thoracic motor reflex disturbance—commotio cerebri or commotio thoracis. The difficulty is also increased by the severity of the frequently accompanying injuries, particularly those of the diaphragm, abdominal organs and the presence of pneumothorax. The history is of great importance. If the patient immediately after the injury collapsed, if his face was dead white and his pulse scarcely perceptible, he is probably suffering from shock either cerebral, thoracic or both. But if his condition at first was fairly good and then he gradually developed an increasing weakness of the pulse; if his nose and forehead became cold and his lips blue and then cyanosis of the face and neck developed; if the veins of his neck became engorged and then distinctly pulsated; if his breathing at first sighing and superficial steadily became more labored and finally stertorous, and if unconsciousness supervenes or deepens, then heart strangulation is very probable. If then the precordial dullness is found to be greatly enlarged and the heart sounds are either entirely absent or very distant the diagnosis is almost certain. When the heart strangulation has reached this degree, death occurs early unless relief is brought about by pericardial aspiration or pericardiotomy. Usually the patient complains of extreme pericardial pain; of a feeling of heart compression especially during inspiration. A marked feeling of anxiety is usually one of the characteristic signs; occasionally neuralgic pains down the left arm. Hiccough from phrenic nerve or diaphragmatic irritation is by no means rare. It is interesting that in marked heart strangulation the left radial pulse is often missing.

When an extensive hemopericardium is recognized or suspected, aspiration should be done. The principal thing is to avoid injury to the heart. In general, aspiration immediately to the left or to the right of the sternum is to be warned against. Here the heart can be easily injured and the internal mammary vessels punctured. If one must go in lateral to the sternum, go in two or three cm. from the sternal edge in the fifth interspace. Aspiration is frequently done just outside the apex beat, if no apex beat is discernible just within the lateral border of cardiac dullness to the left of the nipple line. The classical place for aspiration, however, is in the angle where the seventh rib meets the xyphoid cartilage. This site is all too rarely employed. Here as a matter of fact are the most favorable conditions for reaching fluid without injury to the surrounding structures. Here is the lowest point of the pericardium and where the contents most easily can flow out. The procedure, under local anesthesia, should be done quietly and carefully with the patient lying in bed. The patient should be slowly and carefully raised to the half erect position, the arms down to the sides. A short, heavy pillow under the shoulders, head lying over this in extension. One should use with light, careful and sure hand a simple, plain twenty gauge needle or still better a very fine trochar. The trochar is slowly pushed in towards the direction of the pericardium. As soon as the fluid is reached one feels the difference in the resistance, the steel rod of the trochar is removed and the fluid empties usually under some pressure. If no fluid is obtained one slowly moves the needle back and forth, or turns it to reach a better position. Under all conditions avoid injury to the surface of the heart. Even a slight scratch in the region of the apex of the heart may result in considerable bleeding. If this occurs, after withdrawal of the needle, heart tamponade may develop even more markedly than before aspiration was done. It is well to have salt solution handy and when fluid begins to flow through the needle to rinse out the pericardial cavity. The constant action of the heart churns the blood continuously. Theoretically, marked union between the heart and pericardium could occur, probably, however, when infection does not occur the fibrin is gradually absorbed and the heart remains freely movable within its enclosing sac. In a later report the results of animal experimentation on this problem will be published.

If the patient is relieved after aspiration of the blood and apparently blood does not recollect, nothing further needs to be done. In the event that it is recollecting slowly, aspiration may be repeated. If, however, there is a rapid reaccumulation it is much safer to expose the heart freely by anterior incision prepared to find and tie the bleeding point.

There are few surgical measures that are so dramatic in their effect as the aspiration of pericardial blood. Venous pulsation ceases, venous engorgement disappears, respirations become regular and easy, cyanosis and dyspnea disappear and the patient often becomes conscious almost at once, looks about him, asks a question or two and drops off into deep, quiet slumber.

It is well to remember in aspiration of a hemopericardium if there is a sudden increase of blood indicating injury to the heart and hemorrhage, that it is a fundamental error to remove the needle since when that is done, blood will accumulate in the pericardium, causing heart strangulation and death in a few minutes. It is rare for the patient to die suddenly during pericardial aspiration. If death does occur, then the needle has probably hit a heart nerve center or air embolus has occurred. These misfortunes have been reported especially during aspiration in the fourth and fifth interspaces. The needle in aspiration of the pericardium at the sterno-costal angle should be directed directly upwards and inwards at an angle of about forty-five degrees to the body.

It has been my experience that extensive hemorrhage into the pericardium is seldom considered. Autopsy records following injuries of the chest show this not rarely as the cause of death. In any case of severe thoracic injury it should be a routine procedure to eliminate this possibility. Without making it a routine measure it will surely sooner or later be overlooked.

727 West Seventh Street.

DISCUSSION

Philip Stephens, M. D. (1136 West Sixth Street, Los Angeles).—Doctor Dolley has presented very clearly and ably a subject which is becoming more important as the number of traffic and industrial accidents increase. His opening statement, that a trivial lung and chest injury may result in death if not recognized and given proper attention should put us on our guard with our accident patients and make us pay more attention to fractured ribs and chest injuries. Make us less anxious to rush our patients under an anesthetic for reduction of fractures which if properly splinted can wait twenty-four or forty-eight hours without too great jeopardy of the final healing process.

His conservative, watchful policy should give us some solace during the first forty-eight hours when we are dealing with a severely injured person who commonly has associated with his fractures and head injuries, such a degree of shock, hemorrhage and the possibility of intra-abdominal injury that one can do little else but watch and deal with the complications as they arise. It is in these cases of multiple injuries, where we are required to differentiate between hemorrhage and shock, ruptured and traumatized viscus, skull fracture and cerebral contusion that a clear cut paper of this type is of aid in helping us give our patients enough care to safeguard his life and not jeopardize it by surgical procedure.

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A. Lincoln Brown, M. D. (490 Post Street, San Francisco).—Hemothorax certainly, and hemopericardium occasionally are conditions which are usually traumatic in nature and therefore frequently come under the care of the general practitioner. It is thus essential for all to have a thorough understanding of these conditions, and particularly of their physiology and pathology. This, Doctor Dolley has made available in his exposition of the subject.

The question of whether intrapleural hemorrhage should or should not be removed is still a moot subject. Our decision is of course made easier when either the fluid collected produces sufficient pressure symptoms to dictate removal or when continued hemorrhage determines operative intervention for its control. But in the majority of instances we are faced merely with the problem of what to do with the fluid—a hemothorax per se. Doctor Dolley has covever the pros and cons regarding its removal and has discussed whether or not we should replace with air. I personally tend to favor the removal of the fluid, particularly for the following reasons, which I feel outweigh the disadvantages of this procedure. One, fluid left in the pleural space, even if ultimately completely absorbed, is prone to leave the patient with a fixation of the lung in an abnormal position and this is of course often followed by a disturbing chain of subjective symptoms for the patient, including particularly pleural pain and symptoms due to distortion of the mediastinal viscera. Two, blood left to absorb in the pleural space produces not only great thickening of the pleurae, but tends to form fibrin clots which collect in the costo-phrenic sulcus, and require subsequent removal by thoracotomy. If the hemothorax is to be aspirated, I believe this should be done early in the treatment, usually in the second twenty-four hours and that this aspiration should be repeated daily if necessary, so that the pleural space is kept empty. Otherwise I feel that the advantages sought by aspiration are not attained.

As I have suggested previously,[†] it is entirely feasible to collect the blood removed and use it for autotransfusion. This adjunct to our therapy is often of exceptional value in those cases where there has been any real amount of extravasation of blood.

Doctor Dolley (Closing).—Just a thought important enough to be worth reiteration. In a patient who has received a severe chest injury there are no physical signs that surely eliminate extensive bleeding between the pleural leaves or pneumothorax under great pressure, or both. When any doubt exists, use aspirating needle. If symptoms indicate that a hemothorax is steadily increasing in a dangerously injured patient do not wait until he is moribund before attempting to find and ligate the bleeding vessel.

DISLOCATION OF THE ASTRAGALUS*

ASSOCIATED WITH FRACTURE OF THE CUBOID AND FIBULA FOLLOWING SIMPLE INJURY

REPORT OF CASE

By S. L. Haas, M. D.
San Francisco

Discussion *by E. W. Cleary, M. D., San Francisco; H. W. Chappel, M. D., Los Angeles; Rodney F. Atsatt, M. D., Santa Barbara.*

CONSIDERABLE confusion has arisen regarding the nomenclature of the dislocations of the tarsal bones. It is therefore impossible to get any absolute statistics regarding the frequency of the various forms of dislocations. However, it is accepted that certain types are relatively infrequent as, for instance, true dislocation at the astragaloscaphoid joint. Milch,[1] in his paper, reported that up to 1929 there were only twelve cases of complete luxation at the astragaloscaphoid articulation and about 139 cases of dislocation at the subtarsal joint. The distinction between dislocation at the astragaloscaphoid and subastragaloid joint is a subject over which there is some dispute. It is rather difficult to understand how the head of the astragalus could be displaced entirely from its articulation with the scaphoid without at least some change in the subastragaloid joint, especially when the head is displaced inward or outward. Likewise, when there is a dislocation in the subastragaloid joint the head of the astragalus will luxate out of its articulation with the scaphoid bone.

MECHANISM OF PRODUCTION

The mechanism of the production of this type of dislocation calls for some speculation regarding the exact factors that come into play. In the first place, the foot must be in an abnormal position at the time of the unusual force. The degree of force necessary to cause the dislocation will vary under certain conditions, being much less when the individual does not anticipate the strain. Thus, a man may jump from a height of ten feet without incurring a dislocation, even if he does not land squarely. On the other hand, if he should step off from a height of two feet unexpectedly, and his protective muscular apparatus has not time to function, a dislocation may take place.

It is possible that poor development of the ligamentous structure or abnormal contour of the joints may have some influence over the production of these dislocations. Although it is claimed that the ligaments of the astragaloscaphoid joint are weak, one cannot help thinking otherwise when attempting to remove the head of the astragalus at operation. Furthermore, the overlying deltoid ligament and the calcaneoscaphoid lend a considerable support to the astragaloscaphoid joint. The scaphoid, being free from insertion of tendons, is not subject to any abnormal pull. The rarity of dislocation further substantiates the opinion that the joint must be well protected.

The position that the head of the astragalus takes following a dislocation varies with the position of the foot at the time of the injury. If the foot is supinated and in plantar flexion the dislocation will be outward and upward; while if it is supinated and in dorsal flexion the head of the astragalus will be outward and downward. If the foot is in pronation the dislocation will be inward. The outward displacement is more frequent than the inward dislocation.

Diagnosis of dislocation of the astragalus is usually quite difficult without a roentgenogram on account of the swelling that occurs within a short time of the accident. If the swelling has not begun, the displaced head of the astragalus may be palpated or the defect proximal to the scaphoid may be made out. A helpful sign is the shortening of distance from the internal malleolus to the tip of the first toe in conjunction with a valgus or varus deformity of the foot.

TREATMENT

The treatment is by closed manipulation of the foot, the patient being given an anesthetic. The exact procedure varies with the type of displacement. Traction is applied in the long axis of the foot and the foot is then abducted to restore the normal length of the inner border of the foot. The foot is placed in plantar flexion when the head of the astragalus is displaced downward and in dorsal flexion when the head of the astragalus is displaced upward. Pressure is made on the head in the direction of the position of its normal articulation. Inversion or eversion may be necessary in some cases to complete the reduction.

After the reduction is completed a plaster of paris dressing is applied, holding the foot in as near the normal position as possible, particular effort being made to restore the longitudinal arch. An x-ray should be taken immediately to be certain that luxation did not recur during the application of the plaster. Gradual weight-bearing with crutches is then begun, after three weeks, and routine physiotherapy instituted.

If closed reduction is not possible it is necessary to resort to open operation. Interposition of ligamentous or tendinous structures may prevent reposition and adhesion in old delayed cases. Some surgeons have advised an arthrodesis of the astragaloscaphoid or subastragaloid joints. This may be indicated at a later date if there is a painful arthritis. Astragalectomy is seldom necessary, although it has been suggested.

[†] Brown, A. L.: Autotransfusion: Use of Blood from Hemothorax, J. A. M. A., 96:1223-1225 (April 11), 1931.

[*] Read before the Industrial Medicine and Surgery Section of the California Medical Association at the sixtieth annual session, San Francisco, April 27-30, 1931.

The prognosis for good function after reduction is favorable, although there may be some restriction in the subastragaloid of the mediotarsal joints.

The complications following dislocation may be necrosis of the skin from pressure of the displaced head if reduction is delayed too long. Gangrene of the foot may occur if the circulation is impaired by pressure or injury to the blood supply. Arthritis of the tarsal joint may cause some trouble after reduction.

REPORT OF CASE

The following report is of a patient sixty-two years old who tripped on the metal guard of the top step of a street car, the left foot sliding over the edge and coming down forcibly on the step below, with the foot in pronated position.

The patient experienced immediate extreme pain and noticed that the foot was turned markedly outward. She had to be helped down to the street and was taken immediately to the Emergency Hospital, where a padded moulded splint was applied. Examination about one hour after the injury showed the foot markedly swollen, all the anatomical markings of the ankle joint being obliterated. On palpation there was marked induration of the tissues about the entire tarsal region, so that it was impossible to make out any bony prominences. In addition, the severe pain and spasm prevented any manipulation of the foot. It was impossible to make an exact diagnosis without a roentgenogram of the involved region. The next day the patient was sent for an x-ray, which showed a dislocation at the astragaloscaphoid joint, the head of the astragalus being displaced in the infrequent position, namely, inward and downward. There was an associated comminuted fracture of the cuboid and the lower end of the fibula (Fig. 1). The position of the tibioastragaloid joint was normal, as was the calcineocuboid joint. There was at least a rotation of the astragalus on the cuboid and a medial shift of the astragalus in the subastragaloid joint. The patient was given an anesthetic, and while traction and abduction was applied to the toes and the distal tarsal region, pressure was made on the head of the displaced astragalus in the direction of the normal position of the joint. At the same time the front portion of the foot was plantar flexed. The head of the astragalus was gradually moved upward and outward until it assumed a position dorsal to the normal position. Pressure was then made down on the head and it gradually slipped into its normal position. A plaster of paris dressing was applied, after which the patient was sent for an x-ray examination. The film showed the head of the astragalus displaced dorsally, but in contact with the scaphoid. The plaster was immediately removed and, as the patient was still under the effects of the anesthetic, pressure downward on the head of the astragalus completed the reduction. The position was verified by the examination of the new films (Fig. 2). Because of the accompanying fractures the plaster was not removed until the end of six weeks. Adhesive plaster was applied with a pad similar to that used in sprained joints under the longitudinal arch. A leather arch support was given later. The swelling of the leg persisted for about five months and this was treated by an elastic stocking.

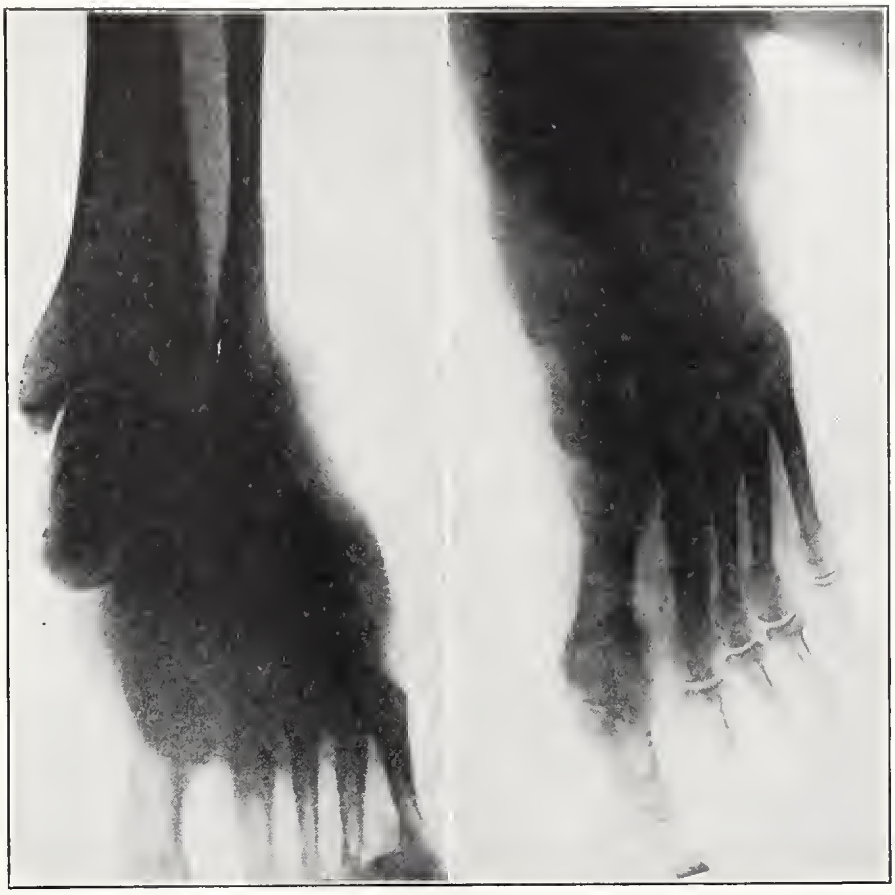

Fig. 1.—Dislocation of astragalus inward and downward. Fracture of the fibula. The fracture of the cuboid cannot be distinguished in the print. Anterior view before reduction.

Fig. 2.—Dislocation of the astragalus two months after reduction. There is a marked disuse atrophy.

The patient was examined April 24, 1931. She has a perfect anatomical form to the ankle and foot. There is a sensitive area over the underside of the cuboid bone. The ankle motion is normal. There is about 50 per cent of the normal range of motion in the subastragaloid and mediotarsal joints. The patient experiences no trouble aside from the occasional slight discomfort in the region of the anterior arch, which is relieved by a metatarsal pad.

CONCLUSION

Dislocation of the astragalus should be treated by an immediate attempt at closed manipulation. If this is unsuccessful, an open operation should be performed. In the case reported there was an associated fracture of the cuboid and fibula which prolonged the convalescence. This severe injury followed a relatively slight trauma.

450 Sutter Street.

REFERENCE

1. Milch, H.: Astragaloscaphoid Dislocation, Ann. of Surg., 89:429, 1929.

DISCUSSION

E. W. Cleary, M. D. (490 Post Street, San Francisco).—In twenty years I have treated only two cases of dislocation of the astragalus. Both were seen between twenty-four and thirty-six hours after injury. Both were inward dislocations; attempts at closed reduction failed in both cases. One, a youth of seventeen, sustained a complete inward dislocation while sliding for a base in a ball game. At operation the astragalus was found completely avulsed from all its ligamentous attachments. Astragalectomy was done lest the bone, having been entirely deprived of circulation, should disintegrate if simply reduced. This case illustrates what Doctor Haas has said. A relatively slight degree of violence produced an extreme type of dislocation.

The second patient, a middle-aged man, fell twenty feet from a lumber flume. The astragalar head was torn loose from its ligamentous attachments and the entire bone rotated inward about 90 degrees around its vertical axis. When I saw the patient the second day after injury the skin and underlying tissues over the projecting astragalar head were frankly necrotic so that operation was precarious because of a possibly contaminated field. The bone was reduced through external incision, and the patient made an uneventful and complete recovery.

* * *

H. W. Chappel, M. D. (1136 West Sixth Street, Los Angeles).—Doctor Haas has given a very helpful explanation of a troublesome injury to the foot. A careful survey of the literature will prove that of the reported cases of dislocation of the astragalus, those occurring at the astragaloscaphoid joint are very rare. Following the mechanism of the production of a dislocation at the astragaloscaphoid joint, as presented by Doctor Haas, an immediate and accurate diagnosis can be made. This is of utmost importance where the time required for a roentgenogram would allow an amount of swelling which would prevent an early reduction, so essential for the restoration of complete function.

Every effort should be made to reduce the dislocation by the closed method, and this failing, an open reduction should be done at once. The astragalus, when it is displaced, may become so completely isolated from nutritive connections as to be in danger of necrosis. This has been a strong argument in favor of astragalectomy, which has varied widely in its end results. Of the cases reported, far better functional results have been obtained from reduction than from removal of the astragalus.

I have observed but one case of dislocation of the astragaloscaphoid joint. The injury occurred during an automobile accident. The head of the astragalus was completely displaced inward and forward from the scaphoid. By traction, dorsal flexion, and abduction, a reduction was obtained and maintained by plaster of paris. Recovery was complete.

* * *

Rodney F. Atsatt, M. D., (1421 State Street, Santa Barbara).—Doctor Haas has presented a rather rare type of tarsal dislocation to us today. The injury causing this dislocation is usually of a much more severe type than that represented by this case. As he states, the exact diagnosis is difficult without an x-ray because of the swelling with obliteration of usual landmarks and because of the distinctly abnormal relations incurred. However, when such a foot is presented to one there can be no question of the existence of some type of dislocation, for there is a very marked distortion of normal outlines.

I have had two cases of this unusual dislocation, both inward displacements of the tarsus on the astragalus. One was a man who was injured by the fall of a horse and had his ankle caught under the flank. The second was a seaman who jumped from a considerable height to a steel deck and landed with the foot in inversion on a piece of cable. In the former there was no associated fracture, making it a rare case indeed. In the second there was a fracture of the fibula.

My reduction in these cases differed somewhat from that described by Doctor Haas in that I reduced the subastragaloid dislocation primarily, then followed by a reduction of the astragaloscaphoid luxation. The principle, however, was identical—a reversal of the causative forces executed under manual traction.

Doctor Haas is to be congratulated on this splendid result he has reported.

CARDIOVASCULAR TESTS IN THE ADOLESCENT GIRL—AS AN INDEX TO CARDIAC AND PHYSICAL EFFICIENCY*

By Katherine M. Close, M. D.
Los Angeles

Discussion *by John C. Ruddock, M. D., Los Angeles; William Dock, M. D., San Francisco.*

The program of the adolescent girl in our educational institutions of today is a very strenuous one. Despite the popular belief that education is not what it used to be, the effort to keep pace with the present-day civilization calls for a greater physiologic reserve than is enjoyed by every adolescent girl.

Having seen many girls break under the stress of the system in vogue, the writer thought some data on the subject would be of interest.

The data, which have been collected and from which these reports are made, are taken from two hundred and sixty-five girls who are enrolled in one of the private schools of Los Angeles—The Immaculate Heart Convent. I have taken the records of these girls only because they were of the same social standing and gave evidence of coming from good substantial homes, and should give the best physical reactions. I recently examined a group of industrial workers and found them generally in a very poor physical condition; a very great contrast to the girls from the convent, who had better surroundings and a chance to enjoy life.

EXAMINATION PROCEDURES

The examination consisted of general inspection as to teeth, tonsils, nutrition, etc. The cardiovascular test consisted of pulse and blood pressure records with the patient sitting. The girl was instructed to hop on one foot fifty times and the pulse and blood pressure were recorded immediately after the exercise and at two-minute intervals until the pulse and blood pressure had returned to the same level as before the exercise.

There is a question as to the "hopping test" being the best one. Some advise stair climbing, stepping onto a chair, etc. All of which would be very good. I have used this method of hopping

Table 1.—*Showing the Averages of the 265 Girls Examined.*

	Average	Before Exercise	After Exercise	2 Min. After Exercise
Age	16.49 yrs.			
Weight	122.13 lbs.			
Height	63.49 in.			
Blood pressure		112.68	126.68	110.68
Pulse rate		86.64	107.76	83.81

Average rise in blood pressure........24
Average rise in pulse rate........21.12

The blood pressure and pulse readings before exercise were taken with the girl sitting. After exercise refers to the hopping test, of hopping on one foot fifty times. The two minutes after exercise, two minutes after the hopping test was completed.

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* Read before the General Medicine Section of the California Medical Association at the sixteenth annual session, San Francisco, April 27-30, 1931.

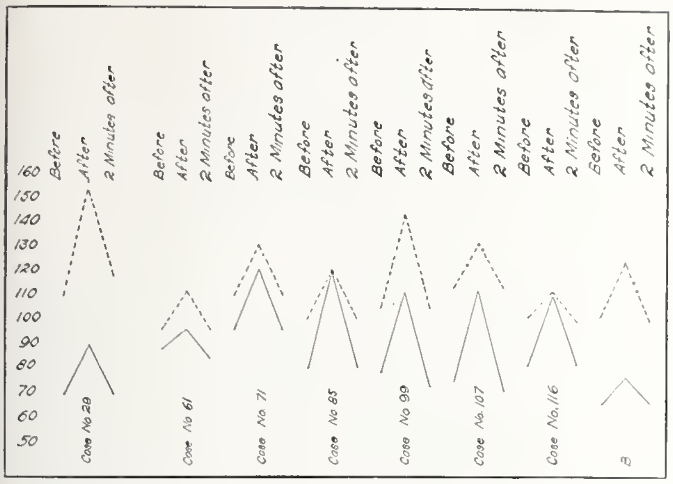

Chart 1.—The response of blood pressure and pulse to exercise eight normal subjects.

over a period of several years in my work at the U. C. L. A. and believe it to be a very reliable standard.

The normal response is the one in which the pulse and blood pressure have risen during the exercise and are at their peak at the close of the exercise, to return to their resting level within two minutes after the completion of the exercise (Chart 1). The abnormal response is any deviation from the normal.

The average age of the girls examined was 16.49 years; the average weight was 122.13 pounds; the average height was 63.49 inches; the average pulse rate was 86.64; the average blood pressure was 112 systolic and 68 diastolic (Table 1).

COMMENT

Girls with Normal Cardiovascular Reactions.—Of the 193 girls who gave a normal cardiovascular reaction, 94 had normal weight; 25 were underweight; 74 were overweight; 85 had palpable thyroids; 35 had palpable cervical glands; 4 had a systolic murmur; upon 79, tonsillectomies had been done; 33 had infected tonsils; 81 had normal tonsils. The teeth were very good (probably an index of the well-nourished condition of the girls); 11 had either moist or dry râles in the chest; two had an arrhythmia; and 79 complained of dysmenorrhea (Table 2).

Girls in Poor Physical Condition.—The number of girls who were in poor physical condition was 72. Of these, 33 were of normal weight, 14 were underweight, and 25 were overweight; 31 had palpable thyroids; 12 had palpable cervical glands; upon 32, tonsillectomies had been done; 14 had infected tonsils; 18 complained of dysmenorrhea (Table 3).

Girls with Abnormal Cardiovascular Reactions. As to the systolic blood pressure, thirty girls showed a delayed return to normal, that is, the blood pressure had not returned to the resting level within two minutes after the completion of the exercise, fifteen showed a drop below the normal level, and two girls showed a rise in blood pressure after the exercise had been completed. In twenty-two girls the pulse failed to return to normal within the allotted time; in nine it had dropped below normal; in one it showed a rise subsequent to the close of the exercise (Chart 2).

In the group of seventy-two girls whom we classified as being in poor physical condition, nine gave normal cardiovascular responses, but because of rough breathing, malnutrition or other factors were disqualified. Of the remaining sixty-three, fourteen had a systolic murmur; ten had dry or moist râles; one was definitely hyperthyroid and was under treatment; two were hypothyroid with a B. M. R. of —12 and —23; five were suspected

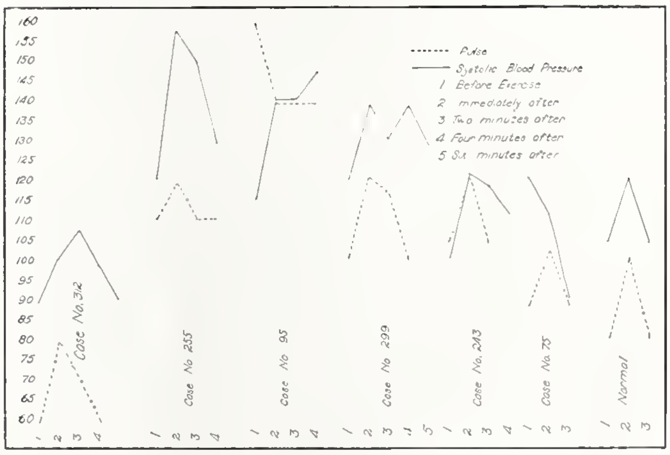

Chart 2.—Six patients who gave an abnormal reaction; charted with a normal patient for contrast. Case 312 has a bradycardia with a rising pulse of 60. Case 255, a patient with badly infected tonsils. Case 95 was a very poorly nourished girl, extremely nervous, with some abdominal pathology of pain, temperature and vomiting. Case 299 has a pronounced systolic murmur, and is very nervous. Case 243, a markedly anaemic patient. Case 95, a patient having an arrythmia.

Table 2.—*Showing Good and Poor Cardiovascular Reactions to Certain Complications.*

	Good cardiovascular reaction		Poor cardiovascular reaction	
	Number of Cases	Per Cent of Total	Number of Cases	Per Cent of Total
Number of girls examined	193	73.00	72	27.00
Weight normal	94	35.47	33	12.49
Underweight	25	9.43	14	5.29
Overweight	74	27.92	25	9.43
Palpable thyroid gland	85	32.06	31	11.69
Palpable cervical gland	35	13.20	12	4.52
Cervicaladenectomy			1	
Systolic murmur	4	1.50	13	4.92
Tonsillectomy	74	30.18	32	12.07
Tonsils poor	33	12.49	16	6.04
Chest râles (moist or dry)	11	4.18	9	3.79
Irregular pulse	2		9	3.79
Dysmenorrhea	79	29.80	18	6.82

Table 3.—*Showing the Types of Abnormal Reactions in Pulse and Blood Pressure.*

	No. of Cases
Blood pressure showed a delayed return to normal	20
Blood pressure showed a drop below normal	15
Blood pressure showed a delayed rise	2
Pulse showed a delayed return to normal	22
Pulse showed a drop below normal	9
Pulse showed a delayed rise	1

of being hypothyroid and B. M. R.'s advised, four of these being definitely overweight; eight had a marked arrhythmia; six had a tachycardia; one a bradycardia; one had a discharging sinus of the neck of probably a tuberculosis nature; one was dyspneic; one had very severe attacks of abdominal pain associated with temperature, nausea, and vomiting; nineteen showed no definite pathologic changes, but, upon checking their activities, it was found they were carrying very heavy programs at school or were indulging in strenuous athletics. Some gave some presumptive evidence of either endocrine upset or a focus of infection (Table 4, Charts 2 and 3).

SUMMARY

From a group of 265 girls whose living conditions should be conducive to the best of health, seventy-two were physically disqualified. Of this group of seventy-two girls, sixty-three had a poor cardiovascular test, and forty-four showed definite pathologic changes. The nineteen remaining girls gave sufficient evidence of poor condition to warrant a complete physical examination.

CONCLUSION

The cardiovascular test is a definite index to the physiological reserve of the individual.

1008 West Sixth Street.

DISCUSSION

John C. Ruddock, M. D. (1930 Wilshire Boulevard, Los Angeles).—The subject which Doctor Close has brought before us is timely, and emphasizes several points:

1. The author has selected the "hopping test" as a functional exercise test, and has recorded the cardiac reactions following exercise. The selection of the type of exercise test is immaterial, inasmuch as all the observations are made after a definite standard amount of exercise.

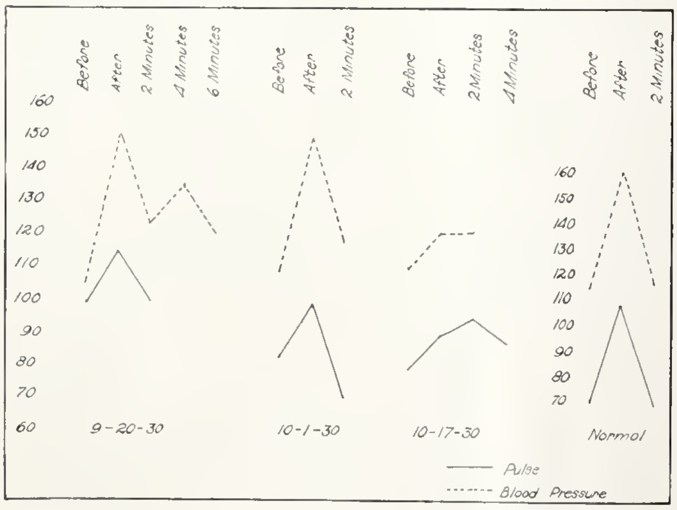

Chart 3.—Three different reactions in a girl who was definitely hyperthyroid, charted with a normal patient for comparison.

This paper also brings out the fact that we have no standard exercise test to make or draw conclusions from concerning the ability of the heart to do work.

2. The author has shown very clearly that the cardiovascular response is in direct ratio to the general health of the individual.

Overweight, underweight, glandular dyscrasia, menstrual disturbances, the autonomic nervous system, infections, all play a part in the physiological reserve of an organism. The cardiovascular response is an index to this physiological reserve, as shown in the inability of the organism to do work.

Great care should be taken among those physicians who are responsible for systematic examinations of school children that a poor cardiovascular response to exercise is not taken as a definite indication of a pathologic heart. Too many children are thus labeled, and the underlying cause dismissed.

Work of this character is valuable because it helps to evaluate those simple tests that are so frequently done, and may save a child from being indexed wrongly with a disease that may influence its entire career.

Table 4.—*Showing the conditions present in those girls who have a poor cardiovascular response to exercise.*

	No. of Cases
Systolic murmur	14
Arrythmias	8
Tachycardia	6
Moist or dry rales	10
T. B. (?) sinus in neck	1
Hyperthyroid	1
Hypothyroid checked	2
Suspected hypothyroid B.M.R. advised	5
Obesity	4
Bradycardia	1
Dyspnoeic	1
Severe cold	1
Markedly nervous	4
No definite pathology	19
Anemia	1

William Dock, M. D. (Stanford Hospital, San Francisco).—Doctor Close is using the vascular response to a standard exercise to test the general condition of a subject, not as a test for cardiac efficiency. In this she is following the correct procedure, for such tests are modified more by the individual's previous training (in the athlete's sense), his general muscle tone and his weight, and his degree of pulmonary emphysema than by the condition of his heart muscle. The custom of referring to these tests as cardiovascular tests deluded some people into thinking of them as tests of cardiovascular fitness; actually the cardiovascular apparatus is studied as an index of general fitness. Doctor Close has shown that in an unusually healthy region one-fourth of a selected group of well cared for young women are not physically fit, as shown by this test. Apparently none of these subjects had heart disease, and I am afraid I would not agree that 60 per cent of these had "definite pathologic changes." I should at least except the fourteen systolic murmurs, the eight with marked arrhythmias, the six with tachycardia, the one with bradycardia, and all of the ten with râles who did not have x-ray evidence of tuberculosis. I agree with Doctor Ruddock that it is important for the physician to exclude disease and worry about disease, and that when an individual has an abnormal vascular response to exercise, together with the physical signs listed above, disease should be ruled out unless it can be proved by other evidence, and properly regulated rest and exercise recommended in order to get the subject into better physical condition.

THE HOSPITAL FOR CHRONIC DISEASES*

ITS PLACE IN THE COMMUNITY, WITH PARTICULAR REFERENCE TO THE CARE AND STUDY OF THE SO-CALLED DEGENERATIVE DISEASES

By Ernest S. du Bray, M. D.
San Francisco

DURING the past two thousand years the predominant type of disease from which mankind has suffered has undergone a gradual change. The scourges of ancient days—leprosy, smallpox, and plague—have given way to the large and important group which we today designate the chronic degenerative diseases.

Examination of the records of out-patient clinics show that, roughly, 60 per cent of the patients applying for treatment have some form of chronic disease. This type of illness requires months of treatment to achieve rehabilitation. Diagnosis often requires elaborate facilities, and treatment is expensive, difficult, and taxes the skill of the physician and the resources of the hospital or clinic. The protracted duration of the disability results in serious financial drain on the patient's family, so that in the majority of cases the sufferers must become, in part at least, public charges. Yet in the whole United States, with the exception of a very few hospitals for chronic diseases, no adequate provision has been made for them either by institutions or by organizations giving home care.

Subjects of acute illness, the duration of which is measured by a period of weeks, receive excellent care in the general hospitals. And there are numerous special hospitals for children, maternity cases, diseases of the eye, diseases of bones and joints, and for nervous diseases. For the chronically sick, however, there is no institutional haven.

SCOPE OF THE PROBLEM

The scope of the problem is indicated by the many different types of institutions which at present serve as refuges for the chronic patients—homes for incurables, almshouses, city infirmaries, and homes for the aged and infirm. They all minister to the same class of individuals, but hardly one of these institutions has made a study of the medical needs of its inmates in an attempt to fill its patent obligations.

Chronic physical disability is determined largely by disease of the heart and arteries, organic affections of the nervous system, cancer, nontuberculous diseases of the lungs, the various forms of rheumatism and Bright's disease, diabetes mellitus, and other disturbances of the glands of internal secretion or metabolism. Adequate treatment of the chronically sick has been greatly hindered by two misconceptions: either they have been labeled "incurable," or they have been confused with the gradual decline in physical well-being which accompanies old age or senility.

There has been a growing tendency to confuse convalescent with chronic patients, due probably to the fact that both often need prolonged institutional care, which cannot be given in a general hospital. The obvious difference, however, is that the convalescent patient is assumed to be capable of a complete physical and economic restoration, whereas only some of the chronic patients can be rehabilitated. Further, the convalescent needs little medical care, perhaps an occasional surgical dressing, a special diet, and sympathetic supervision by an intelligent nurse. On the other hand, the chronically sick often require much medical attention from physicians, nurses, dietitians, and technical assistants, as well as specialized equipment used for diagnosis and treatment.

CLASSIFICATION OF PATIENTS WITH CHRONIC DISEASES, ACCORDING TO THEIR MEDICAL NEEDS

An intelligent grouping of patients suffering from chronic diseases according to their medical needs serves to clarify many misconceptions. Three classes may be established as follows:

Class A. Patients requiring medical care for diagnosis and treatment;

Class B. Patients requiring chiefly skilled nursing care;

Class C. Patients requiring only custodial care.

Individuals do not remain in one class indefinitely. A patient in class "A" may improve sufficiently to be discharged from further care, or he may enter the custodial class "C." A certain number of chronics, however, who belong to class "A" are ambulant, although too sick to follow their accustomed occupations, and can be treated by their physicians or in out-patient clinics. They may be termed "Class A clinic patients."

Class "C" makes up about 60 per cent of the chronics. Simple domiciliary care in an institution is sufficient, provided they have access to a hospital when a renewed progression of their disease sets in. The provision of adequate care for a class "A" patient is constructive effort; often it leads to whole or partial rehabilitation and to economic relief from the burden of illness.

There seems to be no general understanding of the type of institutional care that is needed by the chronically sick, and few of the institutions in which they find refuge are prepared to meet their wants. For the most part, institutions offer little beyond board and lodging, which suffices only for the custodial group. This state of affairs is due to the ignorance of the nature of chronic disease, and the confusion of patients belonging to classes A, B, and C with one another, and with the aged and convalescent. It must be reëmphasized that each group requires different institutional resources.

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* Presented before a Section of the American College of Physicians at the Laguna Honda Home, San Francisco, at the annual meeting, April 6, 1932.

METHODS OF RELIEF FOR THE CHRONICALLY SICK

The hospital for chronic diseases offers the most suitable means for caring for the chronically sick. The establishment and maintenance of such institutions involves a formidable expense and will be possible only in large communities. With rare exceptions, the hospital for chronic diseases will have to be conducted and supported by the municipality or other constituted authority, county or state. Just as local and state governments have been compelled to maintain institutions for the tuberculous and the insane, so they will have to provide for the chronically sick.

THE HOSPITAL FOR CHRONIC DISEASES

It is the task of the present generation to erect and maintain hospitals for chronic diseases, and so to discharge its duty to the one great class of the sick which has, for the most part, been overlooked and neglected. Such an enlightened policy will lead to the gradual abolition of the almshouses and their replacement by a commensurate number of state hospitals for chronic diseases.

The first representative of this type of institution is Montefiore Hospital for Chronic Diseases, in New York. Founded in 1884 as a "Home for Chronic Invalids," it gradually evolved into a hospital for chronic diseases. It is still almost unique in its field.

It should always be kept in mind that the hospital for chronic diseases has a dual function. It must offer facilities for diagnosis and treatment on the one hand, and for domicilary care on the other.

THE MEDICAL ORGANIZATION OF THE HOSPITAL FOR CHRONIC DISEASES

I shall omit discussion of what the ideal physical plant of such an institution should be with reference to its site, buildings, and administration. However, I feel that some suggestions as to its medical organization are in order. This organization is as complex and as complete as that of a general hospital, but differs in certain special adaptations which are conditioned by the particular functions of the special institution. The necessary medical facilities include a staff of visiting physicians, a house staff, special diagnostic equipment such as an x-ray department and laboratories, accurate medical charts, a medical record room, a dental department, and special therapeutic equipment such as operating rooms and physiotherapeutic apparatus.

THE MEDICAL STAFF

General hospitals have little difficulty in recruiting their medical staffs. Physicians seek hospital appointments not only to give altruistic service to unfortunate lay citizens, but also because the appointments give them prestige, and their work in the hospital affords unexcelled opportunity for gaining clinical experience on a very large scale.

But the hospital for chronic diseases is in a far less strategic position in regard to its hospital staff. The greatest handicap to the organization of a strong medical staff in this kind of hospital is the slow turnover of patients and the chronicity of their disabilities. Special measures must be taken to make the work attractive to the medical staff. First, each physician can be given a larger service, so that the greater number of beds compensates in part for the slow turnover. The most important measure, however, which will serve to build up a strong medical staff is provision of adequate resources for complete diagnosis and investigation. Thus, full x-ray and electrocardiographic equipment are indispensable in every such institution. Instruments for special examinations of all sorts should be available. And last, but not least, laboratory facilities should be as generous as possible. When a staff man shows special aptitude and interest in prosecuting some clinical investigation, he should be given every moral and financial encouragement. Such a liberal policy, which on the surface may seem extravagant, will draw physicians to the institution and will encourage their regular attendance. Such a hospital can be of greater service to young physicians and obtain a commensurately greater return by providing a number of salaried residences in medicine, neurology, or orthopedics, for men who have completed their intern year. The quality of the physicians who apply for such positions depends altogether on the name and the medical tradition of the institution. The establishment of a fine reputation is determined by the character of the visiting staff and of the laboratories and facilities placed at the disposal of the physicians.

The discipline among the house staff should be very strict, and emphasis should be placed on promptness in the performance of their duties. There is always a tendency in such an institution to postpone work as not urgent, because of the belief that the patient will remain a long time. The first complete examination of a patient newly admitted should be recorded within twenty-four hours of admission. The clinical charts should be meticulously kept, and when the case is completed they should be filed in a central record room. The autopsy protocol should be added to those records where postmortem examination is made.

THE NURSING PROBLEM IN THE HOSPITAL FOR CHRONIC DISEASES

The problem of nursing in the hospital for chronic disease is important. By some it is thought that the time of a trained nurse is too valuable to waste on a chronic. The misconceptions that enshroud this subject may be attributed to the almost universal ignorance of the functions of hospitals for chronic diseases, and to the confusion of such institutions with homes for incurables and aged. In the question of nursing, too, a proper classification of patients sheds light on the situation. Class "A" and "B" patients demand the services of skilled, conscientious, trained nurses; the custodial or "C" group are adequately served by practical nurses or attendants properly supervised.

From the standpoint of nursing education, the chronic offers certain definite advantages. His psychology differs considerably from that of a patient ill only a few weeks; his morale is apt to be shattered, or he may know much more about his illness and its treatment than is good for him. The very length of the patient's stay in the institution adds to the nursing problems. Prolonged and intimate human contacts, no matter what the attendant circumstances, are apt to lead to friction. Rare tact and firmness are required of a head nurse, and she who cares for such a patient for several months learns nursing methods in a way that is unknown to the nurse on an acute service; she is likewise much better qualified in many branches of her profession than her colleagues in the general hospital.

The sick chronic makes as great demands on the time of a nurse as does the patient in the general hospital, so that the time spent per patient may vary from a minimum of one hour for a diabetic to a maximum of six hours for an incontinent patient with a spastic paralysis of the legs. On the whole it is recognized that the nursing needs of chronics are more continuous than those of patients with acute diseases. In the custodial section the nursing attention is naturally much less per patient.

THE LOCAL SITUATION IN SAN FRANCISCO WITH REFERENCE TO THE HOSPITAL FOR CHRONIC DISEASES

There are numerous other topics regarding the chronic hospital which might be profitably mentioned, such as the special departments for diet, physiotherapy, and occupational therapy. Time will not permit discussion of these important services.

I wish to conclude these remarks with a short consideration of our local status in San Francisco, with reference to the care of the chronically sick. The object of the foregoing comments has been to stress the place and purpose of the chronic hospital in the modern large community, and to indicate in a general way the lines along which this type of institution should be developed.

During the past three years the two universities in San Francisco, through their respective medical schools, have placed at the city's disposal two fairly coherent visiting medical staffs attached to the Laguna Honda Home. Each staff is now responsible for certain wards, the active medical care of the patients being immediately under the supervision of a resident staff and interns, chiefly from the two medical schools.

It has been a pleasure to have served as a member of one of these visiting staffs, and to note the complete harmony which has prevailed between the two visiting groups. It has further been gratifying to note the gradual change in the attitude of the incoming interns for their service here. At the present time most of the young men present a serious and eager manner, and the character of their work indicates that they sense that there is a unique training and rare opportunity for clinical experience in the chronic hospital. As time goes on, consciousness of this will increase, and it will not be surprising to see the time when some of our best students will voluntarily seek work in our Chronic Hospital, with the same enthusiasm that they now approach their services in the large general hospitals.

Our experience in these past years has fully convinced us of an important work to be done here. The challenge of the chronic degenerative diseases is always with us. Their proper study and care, as I see it, resolves itself ultimately into a dual problem. One side of this problem has already been met by the organization and operation of complete and capable medical visiting and resident staffs. The other phase of the problem is primarily of a physical nature, and requires for its fulfillment suitable hospital buildings supplied with the special facilities, not only for the exhaustive study of chronic disease and all that entails but also certain special features not ordinarily found in the general hospital.

As has been suggested, the chronic hospital is destined to be developed primarily as a municipal or state institution. This is a significant fact because the governing boards of such institutions may at times be influenced by political motives. For the best interests of all, these governing boards must appreciate the true objective of the chronic hospital; and, further, they must have the courage to support its advancement in a most enlightened and substantial way.

The vast majority of the medical personnel for this type of institution will always be spirited and earnest clinicians serving without salary; consequently, to maintain the ardor and interest of such men, maximum opportunities should be made.

IN CONCLUSION

In conclusion, then, allow me to predict that the chronic hospital, organized along the lines I have indicated, is bound to be a unit in the future health plans of American municipalities and counties. A change in the public consciousness toward the chronically sick is imminent. It behooves the medical profession, and particularly the medical schools attached to the universities, to be prepared to advise and direct the development of these institutions in their respective communities in the same intelligent manner that general hospitals are now controlled and directed in the large cities. Thus organized and directed, the chronic hospital will offer fine opportunities for service by the medical profession, as well as returns to the profession in satisfaction, education, and scientific achievement.

490 Post Street.

THE LURE OF MEDICAL HISTORY*

ESSAYS ON THE HISTORY OF EMBRYOLOGY†

By A. W. Meyer, M. D.
Stanford University

X

BONNET

Bonnet, who called himself a pupil of Réaumur, experimented with aphidae and rediscovered the fact that parthogenetic development occurs in them. He tells how he reared these insects to the eighth generation and how he made many experiments on polyps. He wrote a treatise on insects and made researches on the diverse uses of leaves in plants. Although Bonnet usually is regarded as a philosopher, he began his life work as an experimental naturalist. It is recorded that he remained such until his eyesight failed him through enthusiastic work with the microscope at the age of twenty-five. There can be little doubt that he never lost his interest in investigation or failed to recognize the great or even crucial value of a well-conceived experiment. He showed the liveliest interest in the experiments and observations of others and suggested experiments to them. In spite of his zealous defense of preformation, he always was ready to change his philosophical conceptions if they failed to account for observed facts. This is well illustrated by the modification of his ideas regarding emboitment. Bonnet's objection to epigenesis apparently was that of those of the present day who reject the implication of spontaneous generation, for the epigenesists of his day did in fact assume that each organism arose anew from unorganized substances at the time of conception. Bonnet thought it seemed that Nature had jumped from the inorganic to the organic and felt that his successors might bridge the gap.

Bonnet's experiments in embryology all bore on the question of generation and restitution of the individual. He was interested in, and experimentally tested, the regeneration of the heads of land snails, that of the limbs and tails of water salamanders, and also inquired into the same processes in crabs, worms, and polyps. He says that from this work he concluded that the assumption of the preëxistence of the germ offers the best explanation for the observed facts. In order to account for the many different portions of an organism that may be regenerated, Bonnet postulated that three forms of preformation are necessary for maintaining the integrity of the individual and one form for the perpetuation of the species. It was in connection with the latter that he accepted the idea of emboitment *ad infinitum,* at first, believing that each preformed individual possessed his specific, even if not his individual characteristics.

EXPERIMENTS WITH BEES

Although they kept bees in glass hives, the older experimenters were unable to discover the manner of fertilization. Since they sometimes found that eggs which were not surrounded by "the whitish substance" failed to develop, they concluded that the absence of this substance was due to an oversight on the part of the males whose failure to add it to the eggs after they had been laid, was responsible for their failure to develop. Debraw, an English naturalist, writing in 1776, declared that the eggs of bees only develop after the males deposit this whitish liquor found in appropriate vessels within their bodies, upon them. He referred to the ideas of Pliny and said that the "incomparable Réaumur" has "in a great measure removed the veil and brought their manner of generation nearly to proof." He also quotes from the "celebrated Maraldi," who after several years of work concluded that the eggs of the bee were fertilized after being laid. When speaking of Maraldi, Debraw wrote:

> "This ingenious naturalist, by a nice examination of the structure of the drones, had, as well as Swammerdam, discovered some resemblances to the male organs of generation; and from thence conjectured, they were the males of the bee-insect; but he owns, with the rest, that he never could discover them in the act of copulation.
>
> "Having stood the trials of so many prying eyes in every age, the bees, as has been observed by an ingenious author, had gained the character of an inviolable chastity, till Réaumur blasted their reputation. He makes the queen no better than a Messalina; though he could see no more than what would raise a mere jealousy or generate suspicions.
>
> "In order to be the better understood in the relation of my own experiments on the fecundation of bees, I here premise the outlines of the opinions adopted by the above-mentioned naturalists on that head. They assert, that the queen is the only female in the hive, and the mother of the next generation; that the drones are the males by which she is fecundated; and that the working bees, or bees that collect wax on the flowers, that knead it, and form from it the combs and cells which they afterwards fill with honey, are of neither sex.
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> "But of late Mr. Schirach, a German naturalist, has given us a very different view of the classes that constitute the republic of bees, in an ingenious publication in his own language, under the title of 'The Natural History of the Queen of the Bees,' which has been since translated into French; an account of which has been given in the Monthly Review, from which I beg leave to relate the author's doctrine with regard to the working-bees only; the quality and functions of the drones being points which do not appear to be yet settled by Mr. Schirach himself. He affirms, that all the common bees are females in disguise, in which the organs that distinguish the sex, and particularly the ovaria, are obliterated, or at least, through their excessive minuteness, have not yet been

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* A Twenty-five Years Ago column, made up of excerpts from the official journal of the California Medical Association of twenty-five years ago, is printed in each issue of California and Western Medicine. The column is one of the regular features of the Miscellany Department of California and Western Medicine, and its page number will be found on the front cover index.

† This is the ninth paper of a series of essays on this subject. Previous papers were printed in this journal as follows: Part I, in December California and Western Medicine, page 447; Part II, in January number, page 40; Part III, in February number, page 105; Part IV, in March number, page 176; Part V, in April number, page 241; Part VI, in May number, page 341; Part VII, in June number, page 394; Part VIII, in July number, page 41; Part IX, in August number, page 111.

observed: that every one of those bees, in the earlier period of its existence, is capable of becoming a queen-bee, if the whole community should think proper to nurse it in a particular manner, and raise it to that rank. In short, that the queen-bee lays only two kinds of eggs, viz., those that are to produce the drones, and those from which the working-bees are to proceed.

"The trials made by Mr. Schirach seem to evince the truth of his conclusions in the most satisfactory manner, singular as they appear at first sight; and indeed in my own judgment, from the constant happy result of numerous experiments, which I began near two years before Mr. Schirach's publication, and repeated every season since, I am enabled to pronounce on their reality.

"Chance, I own, befriended me in that discovery, whilst I was most anxiously endeavouring to ascertain the use of drones. It was in the spring of the year 1770, that I for the first, discovered what Maraldi had only conjectured, I mean the impregnation of the eggs by the males; and that I was made acquainted with the difference of size in the drones or males, observed by Maraldi in his 'Observations Upon Bees,' inserted in the History of the Royal Academy of Sciences for the year 1712, p. 333, in these words:

"'We have of late found a great quantity of drones, much smaller than those we had formerly observed, and which do not exceed in size the common bees; so that it would not have been easy to distinguish them in that hive from the common bees, had not the quantity of them been very considerable. It might certainly have happened, that in those hives, where we have not been able to discover large drones, there were a great number of those little ones, which may have been intermixed among common bees, when we were yet ignorant that any such small drones were existing.'

"Réaumur himself, p. 591, of his 'Natural History of Insects,' says, 'We have likewise found drones that were no bigger than the common bees.'

"They have notwithstanding escaped the observation of Mr. Schirach, and of his friend Mr. Hattorf, member of an academy in Lusatia, who, in a memoir he presented in the year 1769, annihilates entirely the use of drones in a hive; and advances this singular opinion, that the queen-bee of a hive lays eggs which produces young ones, without having any communication with the drones. For what purpose should wise Nature then have furnished the drones with that large quantity of seminal liquor? To what use so large an apparatus of fecundating organs, so well described by Réaumur and Maraldi?

"But I beg leave to remark, that those gentlemen seem to have drawn too hasty conclusion from their experiments, in rejecting the drones as bearing no share in the propagation of those insects. Their observations, that hives are peopled at a time of the year when there are no drones in being; is no way conclusive; as it is evident, that they had seen none but drones of a large size, their silence on the difference in the size of them justifying my remark. But to resume the narrative of my experiments: I had watched my glass-hives with indefatigable attention from the moment the bees, among which I had taken care to leave a large number of drones, were put into them, to the time of the queen laying her eggs, which generally happens the fourth or fifth day. I observed the first or second day (always before the third) from the time the eggs are placed in the cells, that a great number of bees, fastening themselves to one another, hung down in the form of a curtain, from the top to the bottom of the hive, in a similar manner they had done before at the time the queen deposited her eggs; an operation which (if we may conjecture at the instincts of insects) seems contrived to hide what is transacting: be that as it will, it answered the purpose of informing me that something was going forward. In fact, I presently after perceived several bees, the size of which, through this thick veil, (if I may so express myself) I could not rightly distinguish, inserting the posterior part of their bodies each into a cell, and sinking into it, where they continued but a little while. After they had retired, I saw plainly with the naked eye a small quantity of whitish liquor left in the angle of the basis of each cell, containing an egg: it was less liquid than honey, and had no sweet taste at all. Within a day after, I found this liquor absorbed into the embryo, which on the fourth day is converted into a small worm, to which the working-bees bring a little honey for nourishment, during the first eight or ten days after its birth. After that time they cease to feed them; for they shut up the cells, where these embryos continue inclosed for ten days more, during which time they undergo various changes too tedious here to describe.

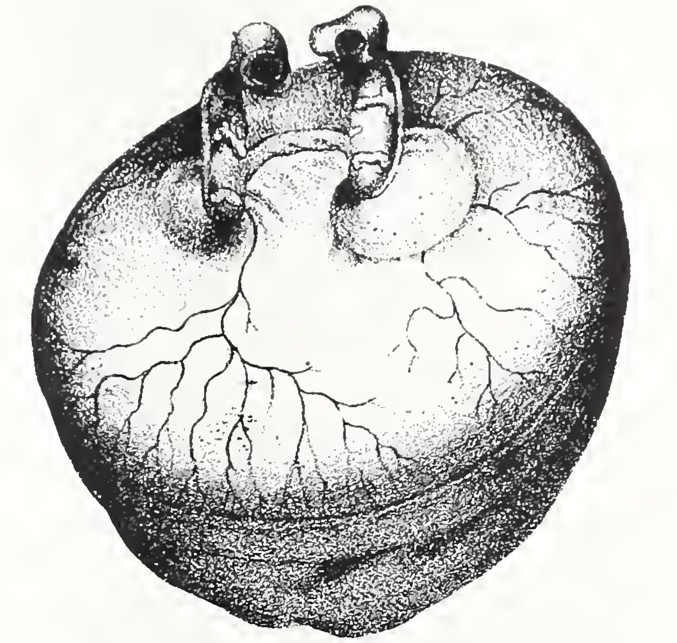

Fig. 6.—Twin chicks, six days old, after Wolff.

"To evince the reality of this observation and to prove that the eggs are fecundated by the males, and that their presence is necessary at the time of breeding, I proceeded to the next experiments.

"They consisted in leaving in a hive the queen with only the common bees, without any drones, to see whether the eggs she laid would be prolific. I accordingly took a swarm, shook all the bees into a tub of water, and left them in it till they were quite senseless, which gave me an opportunity to distinguish the drones without any danger of being stung. After I had recovered the working-bees and their queen from the state they were in, by spreading them on brown paper in the sun, I replaced them in a glass hive, where they soon began to work as usual: the queen laid eggs, which I little suspected to be impregnated, as I thought I had separated all the drones or males, and therefore omitted watching the bees; but at the end of twenty days (the usual time of their hatching) I found to my surprize some of the eggs hatched into bees, others withered away, and several of them covered with honey. I immediately inferred that some of the males, having escaped my notice, had impregnated only part of the eggs; but, in order to convince myself of the truth of my supposition, I thought it necessary to take away all the brood-comb that was in the hive, in order to oblige the bees to provide a fresh quantity, being fully determined to watch narrowly their motions after new eggs should be deposited in the cells. This was done accordingly, and at last the mystery was unravelled. On the second day after the eggs were placed in the cells, I perceived the same operation which I have related in a former experiment; I mean, the bees hung down in the form of a curtain, while others thrust the posterior part of their body into the cells: I then introduced my hand into the hive, broke off a piece of the comb containing two of those insects, and kept them for examination. I found in neither of them any sting, (a circumstance peculiar to drones only); and upon dissection, by the help of a Dolland's microscope, discovered in them the four cylindrical bodies, which contain the glutinous liquor of a whitish colour, observed by Maraldi in the large drones.

"Having till then never observed any difference in the size of drones, I immediately perused the memoirs on bees, published by Messrs. Maraldi and Réaumur, and found that they had remarked it frequently. I have inserted, in a preceding page, the substance of their observations on that head, as taken from their writings. The reason of that difference must, I doubt, be placed amongst other arcana of nature. I found myself, therefore, under a necessity, in my next experiments, to be more particular in destroying the males, even those which might be suspected to be such.

"I once more immersed all the same bees in water; and, when they appeared to be in a senseless state, I gently pressed every one of them between my fingers, in order to distinguish those armed with stings from those which had none, which last I might suspect to be males. Of these I found fifty-seven, exactly of the size of common bees, yielding a little whitish liquor on being pressed between the fingers. I killed every one, and replaced the swarm in a glass-hive, where they immediately applied again to the work of making cells; and on the fourth or fifth day, very early in the morning, I had the pleasure to see the queen-bee depositing her eggs in those cells; which she did by placing the posterior part of her body in each of them. I continued on the watch most part of the ensuing days, but could discover nothing of what I had seen before.

"The eggs, after the fourth day, instead of changing in the manner of caterpillars, were found in the same state they were in the first day, except that some of them were covered with honey. But a very singular event happened the next day about noon: all the bees left their own hive, and were seen attempting to get into a neighbouring common hive, on the stool of which I found their queen dead, having, no doubt, been slain in the engagement. The manner in which I account for this event is as follows: the great desire of perpetuating their species, which is most observable in these insects, and to which end the concurrence of the males seems so absolutely necessary, made them desert their own habitation, where no males were left, in order to fix their residence in a new one, in which, there being a good stock of males, they might the better accomplish their purpose. If this does not yet establish the reader's faith of the necessity of the males bearing a share in the fecundation of the ova, the next experiment cannot, I presume, fail to convince him.

"I took the brood-comb which, as I observed before, had not been impregnated; I divided it into two parts; one I placed under a glass-bell, No. 1, with honey-comb for the bees' food; I took care to leave a queen, but no drones, among the common bees I confined in it. The other piece of brood-comb I placed under another glass-bell, No. 2, with a few drones, a queen, and a number of common bees, proportioned to the size of the glass; the rest I disposed of as before. The result was, that in the glass, No. 1, no impregnation happened: the eggs remained in the same state they were in when put into the glass; and, upon giving the bees their liberty on the seventh day, they all flew away as was found to be the case in the former experiment: whereas, in the glass, No. 2, I saw, the very day after the bees had been put under it, the eggs; the bees did not leave their hive on receiving their liberty; and, in the course of twenty days, every egg underwent all the above-mentioned necessary changes, and formed a pretty numerous young colony, in which I was not a little startled to find two queens."

Gleichen, who also tried to mate ducks with roosters and rabbits, says that a marten unfortunately killed the two first after the cock had tread the duck, which, however, had laid eggs which were sterile. He stated that he never saw copulation between the rabbit and duck as reported by Réaumur and the writer of the letter to Noirmontier, which was cited by Buffon. Gleichen also repeated what he rightly called the ingenious experiments of Bengelin, reported in the *Hamburger Magazine*. The latter replaced the egg-white in eggs of the hen, duck, and pigeon with that from those of other species. Gleichen, who repeated these experiments, found that the eggs always spoiled and he says he got nothing but an "insupportable stench for his trouble." Since the same conditions always resulted whenever Gleichen exchanged the whites of eggs of the same species, he surmised that it was contact with the air which was responsible for the putrefaction and that an exchange of albumen in vacuum might succeed.

Gleichen, who was an animalculist, nevertheless opposed the preëxistence of germs, and said one could not see them in ova nor could one see the sperm in fertilized ova as one should be able to do if they penetrated the egg as some had held. He believed in crosses between the dog and hog, and the deer and the horse, and thought that children which resembled their mothers most were most likely to have maternal impressions. He also referred to the *Gentlemen's Magazine* of the year 1757 in which the case of a hen egg is mentioned in which a toad was alleged to have been found, but thought the assertion of a Moravian soldier who claimed that he was pregnant, was probably the result of an idle brain.

Gleichen also mentioned the idea that the tail of the spermatozoön represents the precursor of the vertebral column and that hence only those animals which possess a tail in adult life should have tailed spermatozoa. He says that this was his opinion and also that of Lieberkuhn and Hamburger, until he saw that spermatozoa of certain fishes are tailless.

It long had been a common opinion that the mammalian ovum passes from the ovary to the uterus through the tubes. This opinion probably was derived from observations on birds. Swammerdam also refers to the general belief that its passage gave rise to pleasurable sensations and sometimes caused swooning on the part of the mother. It also was firmly held that the tubal fimbria clasped the ovary to receive the ova as they were discharged, and it may be recalled that Leeuwenhoek protested against this idea.

HAIGHTON

With pecuniary aid from William Hunter, Haighton undertook a carefully planned series of experiments in 1797 to determine whether ova really are discharged from the ovary, whether sperm must reach the ovary, and whether the presence of corpora lutea is a reliable sign of pregnancy. Haighton stated in this connection that "though some important facts are clearly ascertained, there are others still problematical. Physiologists are by no means agreed concerning the immediate cause of conception. All admit the necessity of sexual intercourse. They acknowledge, too, the necessity of some part of the female being affected by the direct contact of a fecundating fluid, but what the precise part is which must receive the stimulus, has hitherto been involved in mystery and doubt. Nor are they more unanimous respecting the state or condition of the substance that passes from the ovaries; whether at the time of its expulsion it has a circumscribed vesicular character, or whether it has no determined figure. De Graaf and Malpighi, in the last century, and some respectable physiologists of the present day, adopt the first opinion; Haller and some others favour the last."

From his first series of experiments on rabbits, Haighton concluded that the "corpora lutea furnished incontestable proof that impregnation either does exist, or has proceeded." Haighton refers to Haller's statement that he saw semen in the uterus of a sheep forty-five minutes after coitus, but he apparently was unconvinced and concluded from his experiments, that it is not necessary for semen to enter the uterus or tubes because if it were, ligation of the tubes should cause sterility. Strange as it may seem at first thought, Haighton concluded that his experiments showed that this is not the case. This was because he regarded the presence of corpora lutea as proof of the occurrence of impregnation in the ovary. Since corpora lutea formed on the side in which a tube had been ligated as well as on the unoperated side, his proof seemed incontestable to him. Haighton carefully compared the number of corpora on the two sides with the implantations on that side of the uterus and always found them to be the same on the unoperated side. He concluded that no uterine implantation had occurred on the side on which the tube had been ligated because the conceptuses were prevented from descending into the uterus and he hence regarded it as a law that "the ovaries can be affected by the stimulus of impregnation, without the contact of either palpable semen, or the aura seminalis." He doubted the correctness of Nuck's statement that he had produced an extra-uterine pregnancy in a rabbit by high ligation of the tubes, because it seemed to contradict the results of his own experiments, and concluded that the conceptions which he thought had occurred in the ovary on the side on which the tube had been ligated, did not continue their development because nature knew that it would be futile to have them do so.

Since Haighton could not find the ovum in the Graafian follicle although he found thirteen (blastocysts) in the tubes, one of which he actually had milked out, he concluded that "the semen first stimulates the vagina, os uteri, cavity of the uterus, or all of them. By sympathy the ovarian vesicles enlarge, project, and burst. By sympathy the tubes incline to the ovary and, having embraced them, convey the rudiments of the fetus into the uterus. By sympathy the uterus makes the necessary preparation for perfecting the formation and growth of the fetus; and, by sympathy, the breasts furnish milk for its support after birth."

Haighton had a very good idea of the size of the lumina of the tubes from passing mercury and air through them and gave criteria for distinguishing between hydatids or ovarian cysts, and mature Graafian follicles, but he probably mistook some immature follicles for cysts. As far as I am aware, he was the first to have established the fact that internal migration of the ovum does not occur in the rabbit, and although he could not discover an ovum in the Graafian follicle or between the ovary and the tubes, he nevertheless concluded that: "First, the ovum is formed in, and comes out of, the ovarium after conception. Second, it passes down the fallopian tube, and is some days in coming through it. Third, it is sometimes detained in the fallopian tube and prevented from getting into the uterus," which he said it did on the fourth day in the rabbit.

(To Be Continued)

SOME MEDICAL EXPERIENCES IN PERSIA*

BEING A COMPILATION OF LETTERS FROM THE LATE JOSEPH W. COOK, M. D.

LETTER I

Written at Hamadan, Persia,
The American Hospital,
July 1, 1930, to June 30, 1931.

SHORTLY after Doctor Funk's return in June, 1930, we decided that Doctor Funk should continue in his own dispensary in the Kababian district and that I should develop the Pa-ye-Mosala dispensary opened in January, 1930. Pa-ye-Mosala means At-the-foot-of-the-Mosala, which is a camel-backed hill at the southern edge of Hamadan. The city is on three sides of the hill, on which are ruins of great antiquity. Cyrus, or Darius, is supposed to have ruled the known world from his palace on this spot. Around the edges of the hill are hovels, mud houses, caravansaries, garages, cemeteries, all crowded closely together; the worst quarters are here and the wickedest people, they say, live in this district.

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*Editor's Note: An obituary of the late Joseph W. Cook, who was formerly in practice in Banning, Riverside County, was written by Dr. A. L. Bramkamp and printed in the April 1932 California and Western Medicine. It is reprinted in this issue. (See page 189.)

A perusal of that obituary gives the background for a better understanding of the present article. A short time before his death, Doctor Cook sent Dr. Thomas A. Card, secretary of the Riverside County Medical Society, an account of some of his trips and work in Persia. Doctor Card transcribed these letters into typewritten form. The editor gave the sketches to Professor S. L. Millard Rosenberg of the Department of Spanish of the University of California at Los Angeles, who kindly put the letters into their present form, for which coöperation the friends of the late Doctor Cook thank him.

Our dispensary is in the house Miss Montgomery bought for her carriage; the central room is the dispensary, with a room on either side for men and women. Our caretaker lives upstairs and keeps the women reasonably quiet during dispensary hours, week-day mornings from 8 to 12. Possibly seventy per cent of our patients are women; many have learned to come with their babies whenever in need of care. Since it is necessary to have three or four children in order to raise one, we have a splendid opportunity gradually to educate these simple, good women. "I've had twelve children; this is the only one left." "My boy is very sick; I only wish it were my daughter instead." The daughter was deaf and dumb from scarlet fever. Often when women are sick a long time they are divorced; scores of these deserted sick women come to us for treatment. Little girl mothers with sweet, sad faces; older women like Madonnas; the majority wistful, yearning for something better; loving their babies, smiling when we are kind, always modest and always trustful—it has been the greatest privilege of my medical life to minister to their needs.

From July 1, 1930, to June 30, 1931, we have treated 21,378 patients, the majority eye cases, some very bad acute ones; many upset stomachs, hundreds of cases of dizziness, generally indicating worms (they proudly declare expulsion of 15, 30, 100 worms); scores helplessly crippled by osteomalacia; thirty to forty tuberculosis patients, on whom I always spend extra time trying to show the need for rest and to instill hope since tuberculosis is not always mortal, as they believe. Gradually, in the course of a year, comes response and appreciation as a patient returns looking better, realizing that there is a way out; medicine not necessary, only rest in bed. "Don't give your money to me or any doctor; keep it for food," I keep saying. Scores of tuberculous backs, hips, knees; some I have been able to teach the value of sunlight. A boy with a cavity in one lung the size of an orange, his spine bending in two places with tuberculosis, has recovered after lying in the sun two to four hours daily for a year. Even his pulmonary tuberculosis is arrested; his skin is almost black.

A deaf and dumb man was left one morning; he was suffering from strangulated hernia; he had been found crawling along the road, was picked up and brought to us. I closed the dispensary, took him to the hospital and operated on him. Four months later he returned to have his other side, also a hernia, operated on.

One extremely bad case was a cadaverous man with squeaky, high-pitched voice; he had three wives, had been for years an entertainer, singer, and guitar player; he was an opium smoker and weak character but, after all, a human being, down and out. Day after day his three wives brought him; then for a week or so he didn't come; I inquired and found him about to be evicted because of the terrible odor from his sores, by this time about the worst I had ever seen. I dressed them and had him brought to the hospital, where he died after a few days of comparative comfort, still watched over by his wives. As much as we dislike to accept dying patients, we must at times accept those no one else is willing to receive.

One old man whose work had been that of a runner ahead of the carriages of Persian notables begged me to help his wife, who was driving him mad with her complaints—kill her or cure her, he implored. I could find nothing the matter, and found sugar pills more helpful than even morphin.

A little wizened old lady had a right arm gradually drying up and turning black as ink. For several weeks we treated her, for she was too weak to operate on. One day as I left the dispensary I found her, a bundle in the dirt by the roadside, with her son, both crying. They had been turned out of their house. I picked her up and brought her to the hospital, removed her arm, and for a week or so she, too, was comfortable, until the relieving angel took her away.

But not all of our patients die. Scores of cataracts, stones, hernias, and medical patients have come to the hospital from the dispensary; little babies with upset digestions from too much bread and cucumbers are often brought to us; and we hammer away at the mothers, beseeching them to use care and sense in feeding them.

We have made a place in this corner of the city; most everyone knows us; they recognize us variously, it may be with a friendly stone thrown at the auto, or with a proper salaam. Throughout the city, people know that ours is a place where they can get free treatment, and be admitted to the hospital if necessary. One's heart goes out to these ignorant people when they bring dying patients and expect miracles; and oh, how a doctor wishes he could say with Christ, "I say unto you arise and be healed!"

A policeman one day brought a little boy with a curious frightened stare, foaming somewhat at the mouth, his eyes dry and glassy, temperature 107. I had never seen insanity in a child. Three months before, a little stray dog had snapped at his leg and broken the skin, but nothing was thought of it at the time. Hydrophobia, the first I had seen. I refused to do anything, seeing that the child would die, as he did that night. Not long after, a boy was brought with his jaws locked; twelve days before, he had fallen from a donkey and cut his head; some manure had been rubbed into the wound, and then it had been cleaned. It was open, so we treated it as usual and it healed. But the fatal tetanus microbe had been rubbed in beyond the reach of antiseptics, and within twelve hours, in spite of heroic treatment, the boy died.

Pneumonia, as in other parts of the world, occurs; people walk into the dispensary with a gray-white pallor, panting for breath, in the last stages. In view of the terrific exposure that is so common, it is astonishing that more pulmonary disease is not found. Apparently the use of charcoal braziers, by which the people sleep or warm themselves, under heavy blankets or quilts—a peculiarly Persian custom—keeps them well usually, as their heads are always in the cool air. I feel safe in saying that out of the thirty thousand patients I have seen, there were not more than one hundred cases of tuberculosis of the lungs, perhaps forty pneumonia, and not more than eight or ten empyema or pus in the chest. Cancer is uncommon; I have seen in all not more than twenty cases. Appendicitis is almost never seen.

Perhaps the most interesting case I saw during the year was at Malayere, in Mrs. Zoeckler's dispensary. "Here is a man," said Mrs. Zoeckler, "who says he has a leech in his windpipe." Sure enough he had, and I set to work. The sun made a splendid light; with a throat mirror I worked for a long time, vainly trying to grasp the large, slimy, green leech, which was almost suffocating the poor man. Eleven days before, he had lifted a jug of water to drink and had felt the leech slip into his throat. After an hour or more we got the leech out, two inches long, the size of a pencil.

Whenever work became a little slack or weather conditions opportune for itinerating trips, we turned the dispensary over to Doctor Funk or Doctor Andreas, never once closing it, and set out. On the edge of Kurdestan, at Bijar, in October, we treated 2336 patients in fifteen days, operating on seventeen cataracts and lots of smaller cases. In December we went to Burujird through snow and bad weather; there we had 2200 cases: thirty cataracts and scores of smaller operations; crushed three stones, cut for one, and operated on one hernia. Itinerating in winter is risky; finding a proper temporary home is very difficult sometimes. At Sonna in March we had 2936 patients during a wonderful two weeks; did thirteen cataract operations, made seventy-two private calls. One woman, blind for fifteen years, was given her sight. Our work was nearly all open to the public, for advertisement and for educational purposes, insisting on cleanliness, showing them all we could, and that we were not ashamed to say we did not know. Then on to Nehavend for a week in May; 1933 patients, seven cataracts. With 90 per cent of the people reeking with opium and most diseases, and conditions so irremediable, one week was all we could stand; seeing 439 patients a day is not too easy. But, trying as these trips are, they pay; some forty people have come to the hospital as a result of those four trips; 8466 people were treated in four cities, and for every one treated, fully eight or ten know of our work, so our hospital is well advertised, and the doctors better able to handle hundreds of patients and more inclined to refer difficult cases to us. The people generally and the official class receive us most cordially. In our dispensary 21,376 patients have been treated, in our itinerant trips 8466; in all nearly 30,000.

Sincerely yours,

Joseph W. Cook.

(To be continued)

Joseph Wright Cook

1883-1932

We call attention, with deepest regret, to the untimely passing of a former fellow practitioner, Dr. Joseph Wright Cook, formerly of Banning, late of Hamadan, Persia, where he was serving his second five-year term as medical missionary under the Presbyterian Board. His death was due to typhus fever, contracted in connection with his work in outlying villages.

While in Red Cross work in Asia during the World War, he developed pulmonary tuberculosis for which he came to Redlands, then to Banning. He made a prompt and complete recovery, practiced in Banning from 1920 to 1929, when he returned, with his family, to Persia to resume the work that drew him irresistibly and for which he was so well qualified.

Shortly before he left Banning he replied to a remonstrating friend: "If I knew I had only one year to live I should want to spend it in Persia."

Those of us who were so fortunate as to have contact with Doctor Cook came to realize his remarkable capacity for understanding his patients' ills—physical, mental, and spiritual—and his equally remarkable skill in ministering to these varied ills.

Doctor Cook exemplified strikingly in himself the profound truth of that saying of the Great Teacher: "He that findeth his life shall lose it." Giving himself in the service of needy humanity he enjoyed the abundant life that the Christ that he loved and talked about and served gives to those that dare to throw away the lesser for the greater good.

Doctor Cook possessed in an unusual degree the many-sidedness so necessary to the really adequate practice of medicine.

His memory is a benediction and an inspiration to those fortunate to have known him.

A. L. Bramkamp, M. D.

Use of Artificial Pneumothorax Apparatus During Thoracoplasty.—Haight reports a case of tuberculous empyema with pneumothorax, in which an increase in the intrapleural pressure during the second stage thoracoplasty resulted in marked respiratory and circulatory embarrassment. Prompt lowering of the intrapleural pressure by withdrawal of air from the pleural cavity relieved the condition, which might otherwise have proved fatal. The routine use of the pneumothorax apparatus during thoracoplasty in cases of closed pneumothorax is suggested. By regulation of the intrapleural pressure during the operation, it is possible to obviate a shift of the mediastinum and consequent respiratory and circulatory embarrassment. Furthermore, on completion of the operation, an optimal collapse of the chest wall may be attained by decreasing the pneumothorax as desired or by abolishing it entirely.—*Am. Review of Tuberculosis* and *J. A. M. A.*, Vol. 98, No. 22.

CLINICAL NOTES AND CASE REPORTS

HEMORRHOID INJECTION

A NEW SPECULUM AND TECHNIQUE

By Norman J. Kilbourne, M. D.
Los Angeles

The injection treatment of hemorrhoids by well-qualified surgeons has passed out of the experimental stage. Terrell[1] has reported on four thousand patients treated by injection without a single serious consequence, a record hardly equaled by operation. Bensaude[2] of Paris has reported on five thousand injections without a single stricture or abscess. Morley[3] of London has reported on five thousand similar patients, the Martins[4] on over four thousand patients, and Fansler[5] on five thousand patients.

TWO FREQUENT ERRORS IN INJECTION TECHNIQUE

Two errors are commonly made in the injection treatment of hemorrhoids:

1. First, the injection is started in the hemorrhoidal mass itself, where congestion is already present. Increased tension results with pain and a tendency to sloughing, hemorrhage, and stricture. A prolapsed hemorrhoid so treated is pushed down out of the canal further than ever.

The proper place for the first injection, according to the more recent technique, is up above the hemorrhoid at the line of junction of the upper border of the anal canal with the ampulla of the rectum. Morley of London goes at times even as high as the first valve of Houston. Just above the upper margin of the hemorrhoid, the mucous membrane of the rectum is loose with space beneath it for the solution. No tension follows and no pain, and danger of sloughing and stricture in competent hands becomes minimal. After this high injection has been made, further injections lower into the hemorrhoidal mass may be made at later treatments. Such a technique makes it possible to inject successfully in treating even the prolapsed hemorrhoid. There was reason for withholding injection treatment for a prolapsed hemorrhoid by the old technique, but in my experience the prolapsed hemorrhoids (second and third degree of Miles) give perfect results when treated by high injection. The prolapsed hemorrhoid with the surrounding tissue is drawn upward, and shrinks till it is eventually difficult to find a trace of it.

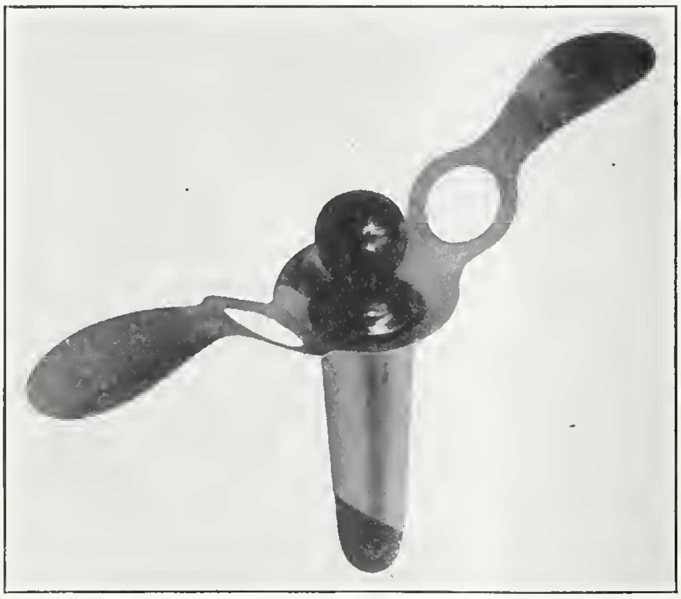

Fig. 1.—Advantages of this new speculum are described in the text.

The case for injecting high is equally strong in the injection treatment of certain types of prolapsus ani.

2. The second error is to inject blindly without adequate exposure of the whole field into which the solution is to infiltrate. Good exposure is the first requirement in all safe surgery. One must see where and how the solution is acting. Then one can tell not only at what depth the needle is passing, but also can judge from the appearance of the mucous membrane how much solution may be injected. No rule of thumb as to the amount and depth of injection can compensate for the helplessness of the operator who injects blindly into masses, which partly protrude into the side or end of an anoscope. An instrument is needed to give a wide, clear view of the field where the hemorrhoidal area passes over to the ampulla.

A NEW INSTRUMENT*

I have not found adequate speculums for this technique available. With the possible exception of one used by Morley of London, I have not found one described in the literature. In common use is the speculum designed many years ago by an itinerant irregular, named Brinkerhoff. With the Brinkerhoff slide speculum, the lower anal canal falls into the slot obstructing the field, and if the narrow slide is only partly pulled out, the field of view is inadequate. Moreover, patients often complain that the slide type of speculum pinches and hurts them. Other specula sufficiently long have side openings which let the hemorrhoid drop into the opening, making it difficult to get around the hemorrhoid and see to inject above it.

I have had made, and have been using for the past year, a simple speculum of the size and shape shown in the picture. It is just long enough in reach to give a full view of the region above the hemorrhoids. The end is beveled on one side, enough to give a view of the side wall of the rectum. It can be rotated within the anal canal without being removed and reintroduced. The handles are neither at right angles nor at a 45-degree angle to the speculum, but curved so as to fit the curve of the buttocks, with the result that one does not need to push them into the buttocks while inserting the speculum.

The double handle facilitates the work thus: With a single handle the beveled opening must be either on the same side or on the opposite side from the handle. For example, if one is injecting and wants exposure above a hemorrhoid at the three o'clock meridian, he inserts the speculum with the beveled opening at the three o'clock meridian. If the handle is attached on the opposite side at the nine o'clock meridian, a nurse assistant at the left of the patient can hold it conveniently. But if one now turns to inject a hemorrhoid at the nine o'clock meridian, the handle will be at the three o'clock meridian, and to avoid reaching way under or across the field of operation the nurse must go around the table and away from supplies and instruments to hold the handle at the three o'clock meridian. With the double handle all this is avoided. The two handles are never in the way because they fit along the curve of the buttocks. I have found that it is of advantage to the operator, as well as the nurse, to have the two handles, because the operator can hold the instrument with either his left or his right hand without crossing them.

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* This speculum may be obtained from E. N. Thomas & Son, Inc., 1208 Fair Oaks, South Pasadena, California.

2007 Wilshire Boulevard.

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SIMPLE ULCERS OF THE JEJUNO-ILEUM

REPORT OF CASE

By S. H. Babington, M. D.
Berkeley

Ulcers of the jejuno-ileum are caused by the following: (*a*) Acute infections such as typhoid and dysentery. (*b*) Tuberculosis. (*c*) Syphilis. (*d*) Uremia.[1] (*e*) Gastro-enterostomy. (*f*) External causes such as adhesions, trauma, hernia. (*g*) Carcinoma.

However, there are thirty-five cases of ulcers of the jejunum and ileum reported in medical literature which do not come under the above classifications. These ulcers, for want of a better term, have been called "simple ulcers."

The occurrence of ulcers in this region increases in direct proportion as we approach the ileocecal valve.

The jejunum is comparatively free of ulcers. But it is the most likely place for ulcers caused by tertiary syphilis and gastro-enterostomy. About 1.5 per cent of all gastro-enterostomy patients return to surgery for removal of a jejunal ulcer.[2]

The ileum is usually the seat of the ulcers due to tuberculosis, amebiasis, bacillary dysentery, and carcinoma.

Simple ulcers occur both in the jejunum and ileum with a ratio of one to three.

Richardson[3] of Boston and Brown[4] of Edinburgh collected all of the case reports of simple ulcers of jejunum and ileum that they could find up to 1922 and 1924, respectively. Apparently no new cases have since been reported. Recently I made a search in one of the large clinical hospitals in California, and was unable to find a single case on record.

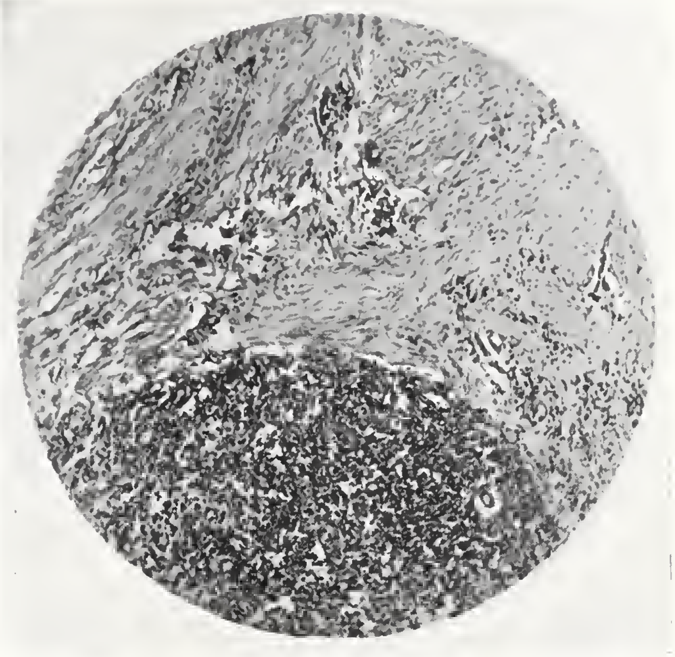

Fig. 1.—Microphoto. Section of ulcer of ileum.

Looking over the reported cases, one finds that such simple ulcers are more often found in males than in females, the ratio being two to one. They are usually in patients who are beyond middle life. Usually only one such ulcer is found in a patient. The symptoms vary from vague abdominal pains to complaints of an acute obstruction and perforation. The pain is usually near the site of the lesion. The pathologic findings are those of a simple inflammatory reaction. Most of these patients have come to surgery because of an obstruction or perforation. The diagnosis of simple ulcer is usually difficult to make. Had the correct diagnosis been made prior to such complications, more lives would have been saved.

REPORT OF CASE

On December 9, 1930, I operated upon such a patient, the history being as follows:

History.—On October 9, 1930 (just two months before the above mentioned operation), I was called to see the patient, a fairly well nourished, well preserved man of fifty years of age, who was in bed suffering from a severe colicky pain in the right upper quadrant, radiating to and under the right shoulder. The patient had no fever, but a definite icterus was present. There was tenderness both in the gall-bladder and tenth rib regions. The patient gave history of similar attacks at least once a year for at least ten years, these attacks being accompanied by sour stomach, belching, occasional vomiting of bile, and transient jaundice. In addition to attacks of this sort, he had had a number of others, unlike the one described, which dated back fifteen years. These were characterized by general abdominal pains, constipation, severe vomiting, with bad odor and bad taste in the mouth. Four of these attacks had been sufficiently severe to send him to a hospital. At each of the hospitals he had had physical examinations, gall-bladder plates, gastro-intestinal series. He was told that since the exact cause of his trouble could not be determined he had best have an exploratory operation, which he each time refused.

In the meantime he had been treated for colitis, gall-bladder trouble, and "dysentery." During the past three years he had been in no hospital. Recently he had noticed that at times, when turning from side to side, he was conscious of a portion of his bowels dropping like a heavy weight from one side to the other.

Physical Examination. — The physical examination showed the gall-bladder condition and icterus as above described; flatulence; slight external strabismus (traumatic); faint systolic mitral apical murmur radiating to the left axilla; slight hypertrophy of the prostate. Smears showed a moderate number of pus cells. The pupillary reactions and deep reflexes were active. The Romberg was negative.

The functional tests revealed a contracted gall-bladder outline with a probable stone shadow. The chest x-ray examination was negative except for a slight hypertrophy of the heart to the left; pleural thickening along the right border of the upper mediastinum; and some hypertrophic changes in the vertebrae. The urine and the blood count were essentially negative; Wassermann was negative; and stools were negative for worms and protozoa, except that two of the specimens showed a number of giardia.

On October 21, 1930, I operated upon this patient and removed a very badly diseased gall-bladder. The points of interest were: The cystic artery made a complete circle around the lower half of the gall-bladder and duct; the gall-bladder itself was divided into two separate chambers because of chronic irritation and adhesions. The gall-bladder wall was very much thickened, and the bile was very thick in consistency. The shadow in the x-ray plate, which had seemed to indicate a stone, was very likely due to these thickened walls and the thick bile, as no stones were found. After the operation new x-ray plates, made on November 20, 1930, failed to show this shadow.

The exploration which was made at the time of this gall-bladder operation revealed the liver, spleen, kidneys, and stomach to be normal. A loop of ileum had a definite fibrous constriction, causing a marked dilatation of the bowel above, forming a pouch about twice as large as the transverse colon. It was freely movable, but there were no adhesions around it. No enlarged glands were found. Apparently the sensation of the movement of a weight from side to side, of which the patient had complained, was due to the "secondary stomach" just described. When full, this pouch could easily shift with the turning of the patient.

After the gall-bladder operation, the patient left the hospital in two weeks, having enjoyed an exceptionally good convalescence.

He reëntered the hospital about a month later, December 9, for a bowel resection. I removed about one foot of the ileum, including the large pouch above mentioned, and the fibrous constriction. I then performed a lateral entero-enterostomy.

The specimen showed several scattered, punched-out mucous ulcers with ragged edges but without very much induration. They were about one-half an inch in diameter and about one-eighth of an inch in depth. There was no definite group arrangement, the ulcers being scattered in various directions along the anterior as well as along the posterior and lateral walls.

Pathologic Report.—Microscopic: acute inflammation of the bowel wall. No evidence of malignancy. (See Figure 1.)

COMMENT

The above case was characterized by several interesting points different from those of previously reported cases.

1. There was more than one ulcer.
2. The bowel formed a large, compensatory pouch, like a secondary stomach, above the constriction.
3. The diameter of the passage at the constriction was less than one centimeter. It did not admit an ordinary Eversharp pencil.
4. The patient at the time of the operation had had only a few mild, vague symptoms referable to the intestinal tract.
5. The symptoms, with exacerbations, dated back fifteen years.
6. Concomitant with the above described condition, the patient had also a diseased gall-bladder, which was removed first.
7. The patient made an uneventful recovery from both the cholecystectomy and the bowel resection, and has since been in excellent health.

2301 Ward Street.

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MONGOLIAN IDIOCY IN JAPANESE

REPORT OF TWO CASES

By Albert L. Hill, M. D.
Los Angeles

Mongolian idiocy only rarely occurs in the Asiatic races.[1] Demuth[2] described a typical case in a Chinese child. Several subjects with that syndrome have been reported in the negro race. A search of the literature reveals no such picture seen or reported in the Japanese. Hence the following case reports would seem to add something to the knowledge of the condition.

REPORT OF CASES*

Case 1.—S. M., a Japanese boy, age two years and three months, was brought in with the complaint that he could not walk or talk.

Family History.—The father is living, forty-five years of age, in good health, and shows no sign of endocrine disturbance. The mother is thirty-seven years old and in good health. There are two brothers, age fourteen and nine, and two sisters, age twelve and seven. All are well and normal in development. The mother miscarried once, at five months. The grandfather on the paternal side died of tuberculosis. Syphilis is denied. Pictures of the other children, some of whom are in Japan, show no facial abnormalities.

Personal History.—Birth was premature but normal. Birth weight was three and one-half pounds. Time of the labor was two to three hours. There were no birth injuries. Development was very slow and poor during the first year. First teeth came in at seven to eight months. Child has never walked or talked. He was nursed at the breast for eight months, then was given rice, vegetable soups, bread, and some cow's milk. He has had no diseases or illnesses. The mental progress has been much delayed.

Physical Examination.—Temperature by rectum was 100. Weight was 18 pounds and 2 ounces. Height was 30⅛ inches. Nutrition was poor. His general development was very poor. He sat up with difficulty. Respirations were regular, and the color was good. He was rather irritable and his cries vague and without purpose. He showed no prostration. Pulse was 100.

Head was short and square; 44.7 centimeters in the O. F. diameter. The diameters of the skull were as follows: biparietal, 14 centimeters; occipitofrontal, 16 centimeters; occipitomental, 15½ centimeters; occipitobregmatic, 15 centimeters. The cephalic index was 87.

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* My thanks are due to Dr. Paul Ito and Dr. Fumiko Yamaguchi, who kindly called me in consultation and gave me permission to report these two cases.

The fontanels were all closed. The hair was rather coarse. The ears were regular in shape and of equal length. There was a congenital cataract in the right eye and a slight opacity in the left one. There was no ptosis or nystagmus. Nose was broad, the nares of good size, and there was no discharge. The lips showed no scars and were of a pale grey color. The tongue protruded during the entire examination. The position of the palpebral fissure was typically Mongolian, but more so than those of any other member of the family. The picture of the child shows that excellently.

There were seven teeth above and eight below and there was considerable irregularity in their position. Other examination of the throat was negative. There were no enlarged glands in the neck and the thyroid could not be felt nor seen.

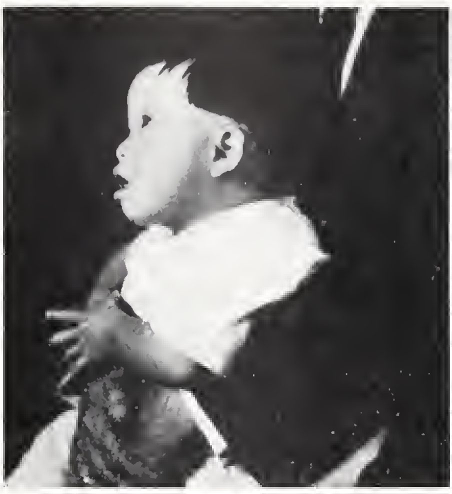

Fig. 1.—Lateral view of Japanese child reported as Case 1. Mongolian idiocy.

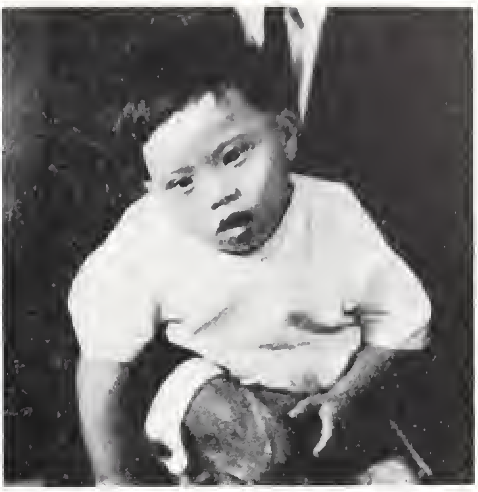

Fig. 2.—Front view of Japanese child reported as Case 1. Mongolian idiocy.

Chest: The chest was 46 centimeters in circumference, presented no rosary or other deformities. Examination of the lungs revealed no abnormalities. The heart was normal in size, regular rhythm, and there were no murmurs.

Abdomen: The abdomen was negative. The testicles were both in the inguinal canals, not yet descended. The penis was rather small for the age. The extremities showed both hands and feet short; no especial in-curving of the little fingers. There was no especial width between the big toes and the others.

Joints: All the ligaments were greatly relaxed, both legs could be placed in complete extension beside the head. Locomotion was accomplished by means of crawling on the belly, and recently the child had begun to get up on all fours, something in the manner of a bear cub. He showed the typical Buddha position when sitting up.

Laboratory Findings.—The Wassermann was negative. The blood showed a hemoglobin of 78 per cent; red blood cell count was 4,840,000; the white blood cell count was 8,600. The differential count showed: polymorphonuclears, 56 per cent; small lymphocytes, 33 per cent; large mononuclears, 1 per cent; eosinophils, 1 per cent; transitionals, 2 per cent. There was no abnormality in staining or in shape of cells. The urine examination was entirely negative. The x-ray examination of the wrists shows three centers of ossification and a very slight curving of the little fingers toward the fourth fingers. Same examination of the skull, both pictures being taken by an expert in this work, revealed no abnormalities except in size and shape.

Diagnosis.—The child was looked upon as a case of Mongolian idiocy and was placed upon a combination of pituitary and thyroid.

Course.—In April, 1928, the child was seen again and his weight then was 22 pounds 14 ounces. Height was 33¼ inches. He had begun to walk at the age of three years and two months. He could say three words at three years. Both his testicles had descended. His intelligence is very low. No further observations have been made.

* * *

Case 2.—K. M., a Japanese girl baby, age fifteen months, was admitted to the White Memorial Hospital, April, 1931, because of her failure to develop normally.

Family History.—The parents were hard-working farmers of average intelligence, the father being forty-six, and the mother thirty-four years of age. Two male sibs, age seven and five years, are mentally retarded. Two other male sibs died at five and three months following acute upper respiratory infections of short duration.

Personal History.—The patient was a full term, normally delivered seven-pound infant, the result of the mother's fifth pregnancy. The child was breast fed during the first five months, and that was followed by whole, boiled pasteurized milk up to the present time. Orange juice was given occasionally, but no cod-liver oil up to the present. Appetite has been very poor for the past two months. The child has been badly constipated, which condition has been relieved by enemata. The first sign of dentition appeared two weeks ago. No illnesses have appeared other than frequent colds. She has always been of a quiet disposition, crying rarely; quite indifferent to her surroundings. She showed no desire for food or toys and has never attempted to sit up.

Physical Examination.—The patient appeared poorly nourished, weighing only 14½ pounds, not acutely ill, but lying quietly in bed unable to sit up unsupported. The skin was pale, clear, and not of unusual texture.

The skull appeared typically brachicephalic with flattened occiput. Anterior fontanel open, about one inch in diameter, but not bulging. Pupils reacted to light. Internal strabismus of the right eye and nystagamus of both is present. There was no evidence of blindness; typical mongoloid slant of the eyes. The fundi were negative. Nose was negative. Mouth: Lips not unusual; tongue appeared unusually long, but not thickened, and protruded loosely from the mouth; its surface was moderately fissured, with a prominence of the papillae; arch of the palate was high; tonsils were cryptic and markedly hypertrophied; two lower middle incisors barely through the gums.

Neck was short and thick. Thyroid was not palpable. There was no cervical adenitis. Heart and lungs were negative. Abdomen, negative; no hernia present. Genitalia were those of a normal female infant. Extremities were thin and flabby. Both hands and feet were stubby; joints unusually limber with a marked degree of flexibility. The reflexes were hypoactive. There were no signs of meningeal irritation.

Laboratory Data.—Red blood cell count was 5,900,000; hemoglobin (Sahli), 86 per cent; white blood cell count was 13,000, with 58 per cent polymorphonuclear leukocytes and 42 per cent lymphocytes. Blood Wassermann was negative. Culture of nose and throat was negative. Vaginal smear and urinalysis were negative.

On the day following admission to the hospital, there was a sudden rise in temperature, with development of diffuse bronchitis and death of the patient within twenty-four hours.

The final diagnosis was: (1) Acute bronchopneumonia; (2) Mongolian idiocy; (3) hypothyroidism.

1401 South Hope Street.

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ACARUS SCABEII

By Merlin T.-R. Maynard, M. D.
San Jose

THE acarus of scabies is a constant parasite of the human race. Every physician in his practice sees many cases yearly, but I doubt if the average physician is able to make a positive diagnosis by actual demonstration of the parasite more often than in one patient out of five. This inability to demonstrate the acarus is usually due to a misconception of the pathology of the lesions and the lack of knowledge as to where in the burrow the parasite is to be found. As we read our textbooks it seems a simple matter to locate and pick out the acarus and examine it under the microscope. However, I know of dermatologists who are never able to satisfactorily demonstrate the organism.

When one thinks about what happens in the burrow it is not difficult to accurately trace the parasite and remove it for demonstration. The majority of physicians in their search immediately open the vesicle and search for the parasite within its contents and are baffled when no parasites are found. They also attempt to find the parasite in the papular lesions on the skin of the forearms and abdomen where the search is very difficult, as it is only in the burrows that the organism can be seen and successfully recovered. In lesions on the wrists and hands, where burrows are always present, there should never be any failure in the demonstration of the acarus. The drawing that accompanies the article shows rather schematically the conditions and types of the burrows one most commonly finds.

When the burrow is examined, if it has been there for some time, one first sees the entrance end of the burrow with the skin exfoliated. This is a remnant of the old burrow and has been passed through several days before. We naturally do not find the acarus here. By following this we next see the tract of the burrow, which is filled with tiny black grains; these are made up of altered blood and the feces of the insect. The parasite is also not found here. Next we come to a vesicle with an inflammatory reaction, and here we search with very rare success for the parasite that is ordinarily not found therein. If we then carefully scrutinize the skin surrounding the burrow, we find a faintly inflamed tract passing out from the vesicle, usually on the opposite side, and by following it to its end we see a tiny white dot that resembles a scale in the skin. At this point there is no inflammatory reaction. Now if we take the tip of a knife—and I find a paracentesis knife the best for the purpose—and prick out this white body and set it into a drop of water, we find that we have recovered the acarus of scabies. The physician who carries out these steps of examination and searches for the white dot at the uninflamed extremity of the burrow has learned to successfully discover the parasite.

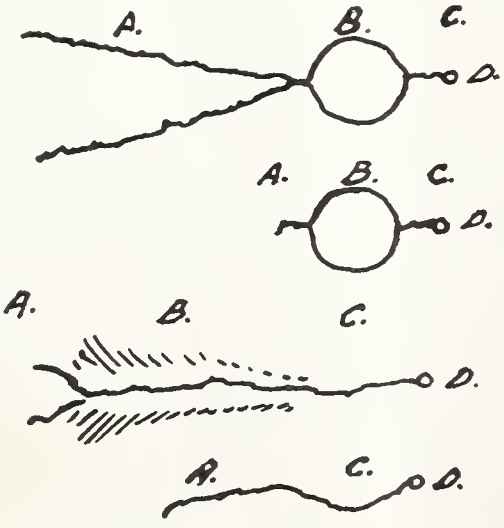

Fig. 1.—A. Old tract of entry. B. Vesicle or other type of reaction. C. Recent tract. D. Immediate position of acarus.

A brief consideration shows the cause of failure and the reason why the vesicle does not contain the parasite. We do not find the parasite at the beginning of the burrow for obvious reasons. Next, the vesicle is an inflamed reaction to the irritant action of the parasite and whatever bacteria may have been carried into the skin by its presence. The formation of a vesicle from irritation and the process of bacterial growth is of course slow, and probably twelve hours or more elapse before a vesicle is formed. Within this passage of time the acarus has continued onward and the vesiculation follows behind it at a definite interval. The acarus is found at the outermost extremity because it is there it is actively burrowing. The acarus also is found immediately below the surface layers of the skin, because it is not a deep worker, and the skin is sufficiently translucent to show its whitish body shining through. Lesions on the abdomen and arms of patients, unless they be infants, do not show definite burrows, as the acarus probably does not remain long in these areas of tender skin but burrows in, feeds, and comes out and then seeks a new location. In thickened skin the labor of entry is greater, so that it chooses to remain in the happy hunting ground of its burrow. When the parasite is found in the vesicle it is probable that more than one parasite has been present or has been caught in a resting stage or has lingered to lay eggs or carry out its amours.

In summarizing, then, do not look for the *Acarus scabeii* in the vesicle, but only where the white dot demonstrates its definite presence at the end of its burrow. In the absence of a burrow the diagnosis is necessarily made on the symptomatology and the distribution of the lesions.

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PSITTACOSIS

By Ira B. Bartle, M. D.
San Luis Obispo

THE State Board of Health has called attention to the existence of psittacosis in California. The following report may therefore be of interest:

REPORT OF CASE

Case 5003.—Mrs. S., white, female, age fifty-one, weight about 187, height about five feet four and one-half inches, rather overnourished, with fat over the abdomen rather excessive.

In June, 1929, the patient suffered from an attack of backache which she described as lumbago. A small renal calculus of right side was passed at that time, and the lumbago cleared up. Urine: Specific gravity, 1030; acid; albumen and sugar, negative; acetone and bile one plus; many amorphous crystals; pus and blood cells one plus; some epithelial cells.

On May 31, 1929, the patient complained of feet swelling, and loss of energy. Urine: Specific gravity, 1027; acid; albumen and sugar, negative; microscopically negative.

Patient came under observation for the attack here reported on January 2, 1932. Patient complained of abdominal pains and diarrhea (seven or eight stools a day), some cough, some distress in lower left chest. Temperature, 103.6 degrees; pulse, 110 to 120; respiration, 24 to 30. Patient had been sick for two days, and had had a chill followed by increase in temperature and by distress in lower left lung. Apparently the diarrhea developed after a cathartic. The skin was moist, and patient complained of sweating. There was marked disturbance of the mental faculties, a low delirium, and the patient found it rather hard to collect her thoughts.

A working diagnosis of respiratory infection by one of the hemolytic group was made. Some moist râles and decreased respiratory and voice sounds, and a slight area of dullness in the lower left lung were noted. At the end of the second day the left lung cleared, but the same picture appeared in the middle lobe of the right lung, just external to the nipple. Temperature and pulse remained about the same, the temperature ranging from 100.6 to 104 degrees, and pulse 110 to 120. The spot in the middle lobe of the right lung cleared, but the upper lobe of the right lung again became involved. The course was not progressing satisfactorily.

As the patient was watched, it was difficult to explain why the patient was so seriously sick with so few localized symptoms. Widal and undulant tests were negative.

Upon entering the house to visit the patient on the first day, I saw a pair of love birds and asked if the birds had been in good health (as I have some birds at home and am rather fond of them). I understood the answer to be in the negative.

On further questioning, the following facts were brought out. The birds were bought from a peddler on December 5, 1931. One of these birds did not appear well, was gapping and dumpy. The next day the peddler took that bird back and gave her another bird. One of these birds died shortly, and was replaced through a local dealer. The peddler was peddling by hand, and claimed to have come off a boat at Avila. He was apparently an Australian. The patient's illness began on December 23, 1931, but through false sensitiveness did not tell me she had been under the care of another physician. We killed the two birds and sent them to the laboratory of the University of California.

Laboratory Report.—The report received January 14, 1932, was as follows:

"The examination of the two love birds owned by Mrs. S. has been made. One of the birds showed an enlarged, definitely fatty degenerated liver. Culturally, no organisms were demonstrated except streptococci in the spleen. We have taken some of this material and reinoculated it on other birds and mice. The second bird showed consolidation of the right lobe of the lung. Cultural findings revealed the Friedlander bacillus. Since it is difficult from postmortem examinations to diagnose the existence of psittacosis, we are dependent entirely on the reinoculation of the material which will take some time before we can report on the results thus obtained. In my opinion, bird No. 2 is probably not a case of psittacosis. Bird No. 1 might be considered suspicious, although other infections may cause the same lesions." Signed, K. F. Meyer.

The following is a later report, dated January 27, 1932:

"On January 11 we received from you two shell parakeets or love birds, supposedly owned by Mrs. S. As previously stated, one bird showed an enlarged, fatty, degenerated liver, which was found to be culturally sterile. The reinoculation of this material produced typical psittacosis in rice birds. Passage through mice and the demonstration of typical L-CL-L bodies found in smears from the spleen support the diagnosis and leave no doubt that one bird at least died of psittacosis." Signed, K. F. Meyer.

A report dated February 1, 1932:

"I wish to thank you for your letter of January 27. The specimen of blood was received today and we will subinoculate it into other animals and make an agglutination test as well. Doctor Hazeltine and I concluded that this is probably a mild case of psittacosis." Signed, K. F. Meyer.

And a report from the University of California laboratory, dated February 4, 1932:

B. abortus, negative; *B. melitensis*, negative; *B. typhosis*, negative; *B. para* A, negative; *B. para* B, negative. Wassermann, negative.

In our own laboratory the blood culture was negative; sputum was negative for the bacillus of tuberculosis; urine was negative except for one plus acetone and a lowering of the chlorids, at the onset of the illness. On February 8, some pus, blood cells, bacteria, and many uric acid crystals were noted. Blood count on January 29: Red blood cells, 3,480,000; white blood cells, 15,300; hemoglobin, 75 per cent; polymorphonuclears, 72 per cent; small lymphocytes, 18; and large lymphocytes, 10.

On March 4, 1932: red blood cells, 5,000,000; white blood cells, 11,200; hemoglobin, 85 per cent. On January 29, 1932, the blood pressure was 140 systolic, 86 diastolic; weight was 159¼, a loss of over twenty pounds. On March 4, 1932, the blood pressure was 160 systolic, 100 diastolic.

About January 10 the patient was put on quinin and a chlorin mixture, and there was marked improvement. The mental symptoms cleared, temperature dropped to normal, and pulse was 82 to 90. The appetite improved some, but the patient was very weak and had poor color. On January 29, a little fever showed, which ran from 100 to 101.08 degrees on February 3, but disappeared by February 5. There has been no subsequent rise in temperature. The recovery has been extremly slow.

The very marked relapse in this case shows a striking similarity to Case No. 3 in the Peterson, Spaulding, and Wildman's series, printed in the *Journal of the American Medical Association* of July 19, 1930.

722 Marsh Street.

The Function of the Graduate School of the Training of Specialists.—Proper survey of clinical material at the command of the medical school almost always reveals a considerable amount, the study and care of which is not properly a function of the student at the undergraduate level or of the intern preparing for general practice. I suspect that much of the deplorable tendency of so many medical graduates to rush early into the practice of medical specialties results from their enforced contacts as clerks and interns with clinical material which should be reserved for the training of specialists. Much also of the overcrowding of the undergraduate medical curriculum results from the cosmic urge of the specialists in the medical faculty to tell all they know, a desire which might be less harmfully if not more profitably granted if their efforts were directed toward graduate students of clinical specialties.—*Journal of the American Medical Association*, April 30, 1932.

BEDSIDE MEDICINE FOR BEDSIDE DOCTORS

An Open Forum for brief discussions of the workaday problems of the bedside doctor. Suggestions of subjects for discussions invited.

THE USE AND ABUSE OF CATHARTICS

M. S. Woolf, M. D. (384 Post Street, San Francisco).—It is doubtful if there is a great deal of abuse of cathartics and laxatives among the medical profession. For one thing, elimination of the bowels must be obtained whether the cause is organic or functional obstruction. To such an extent is this true that in inveterate and intoxicating constipation, surgery has been repeatedly employed to alleviate the condition and operations such as appendicostomy, ileo-sigmoidostomy and even excision of the colon have been practiced. Specialists in medicine may be said even to have become timid rather than overwise in the use of medication which may be used to provoke evacuation of the intestinal tract. On the other hand, the general practitioner without time, facility or training to evaluate factors in producing constipation may possibly contribute to the abuse of cathartics. But the onus of the greatest abuse must be on the members of the general public, who, without knowledge of drugs of this kind, regard them as the only means concerned in satisfactory cleansing of the bowels. They do not distinguish either conditions appropriate or those inappropriate for their use. Inflammation of the intestinal tract or obstruction are often treated by an irritant such as castor oil, with sometimes disastrous results. And many of the laity are not aware that acute diarrhoea would be much more appropriately handled by the same castor oil in order to get rid in a patent bowel of material or irritating agent which sets up the diarrhoea.

I have said that it appears that specialists are somewhat reticent in using cathartics; in fact, they appear to postpone direct action on the intestine. Some confine their attention to lubricants of the intestine such as petroleum, which are often ineffective, leaking as they do around the feces and leaving these in almost the same state and consistency as they were. In addition, an unpleasant pruritus at the anal canal may be the result of long continued use of such evacuants. Moreover, used in a bowel that needs a stimulus, the oil coats the mucous membrane so that it does not so readily react to its normal reflexes. For a spastic condition of the colon where sedative action on the walls may be required lubrication of this kind may be very useful.

The saline cathartics are often misused. It is not a fact that in organic obstruction no laxatives may be given. Impeding acute obstructions may often be arrested and the bowel fairly well evacuated with a useful moderation of the edema, infection and inflammation produced by the disease. Epsom salts, sodium sulphate or phosphate are appropriate for this purpose, a large amount of fluid being attracted into the intestine by these means, leaving and rendering the contents fluid enough to negotiate a sizable blockage. And again, these drugs have a final relaxing action on the musculature which is beneficial in such cases. At this point a warning may be issued against the use of these salines where depletion of fluid is not desired. If they are advisable, for example, in patients with decompensated hearts and in dropsical conditions of renal origin, so also are they to be avoided where fluids are lost extensively in other conditions, as in emaciation, fevers, excessive loss through the skin, kidneys, and lungs.

At first thought it might appear astonishing that so important, necessary and natural a function as elimination of waste by the intestine should be so problematical. But civilization has brought with it unnatural methods of living. We have perhaps not become used to our upright posture, so that malpositions of our internal organs, strain on their supports and vascular congestion are likely to be present. Daily existence has resolved itself into a life of high tension. Our pastimes are pursued as desperately as our work. Therefore, and, perhaps, most, are involved in these unrelaxed efforts our involuntary muscles through their nervous mechanism. Irritable and spastic colon is resulting—almost a new disease—due to the present age. Irregularities and the rush of meals with strange hours and stranger foods add to the confusion of the intestinal tract. Primitive peoples and untamed animals do not suffer from constipation as do the civilized races and domesticated animals. All this, if true, suggests that there are important adjuvants to the treatments of constipation by cathartics, which are mainly, relaxation, sleep, moderate exercise, regularity and natural diets and a more moderate strife in daily pursuits.

While the above conditions remain unaltered, laxatives or cathartics will be necessary and will continue to be largely used. The number and names of these laxatives are legion. They are as numerous as the tonics and there is no particular reason to be dogmatic on their use. It is, however, wise to estimate the type of colon before prescribing, although it is by no means true that a spastic colon, for example, must only have inert oils and a low-residual diet. Sometimes a bulky, as opposed to a "rough" diet with a mild laxative keeps the bowel actively enough evacuated. One may often think of cathartics as rather concentrated doses of those agents found in certain articles of our diet and mainly in fruits. One's personal preference might well be on this basis the vegetable laxatives.

Elimination from the lower bowel may be obtained by enemata from below in contrast to the use of laxatives from above. My experience leads me to favor the latter for general treatment. I have seen much irritation produced by hospital orderlies and patients whose vigor has exceeded their caution. The mucous membrane may resemble after a determined effort to evacuate the bowels by this method, nothing so much as diffuse ulceration with desquamation and bleeding. The enema, if employed, should be of the blandest fluid, preferably normal saline solution, in fair quantities, say two quarts. It can only be effective if retained for several minutes and given with small positive pressure with the patient lying on his left side. The enema should be used for a final and rapid emptying of all the contents of the lower bowel. Otherwise, it is an unnatural method. It interferes with the normal peristalsis and renders the contents unnaturally fluid. A toxic coated tongue is not infrequently seen after its administration. Preoperatively no number of enemata can replace a well selected cathartic if the bowel can be evacuated at all safely. If the rectum itself is the operative field the ampulla should finally be cleansed on the operating table.

* * *

D. Schuyler Pulford, M. D. (Sacramento, California).—Until both doctor and laity discard the use of "cathartics," chronic constipation will not be abolished. It is trite to say, "constipation is a habit." I would say, "Constipation is a cathartic habit." For the purposes of this discussion mineral oils, belladonna and agar are not considered as "cathartics." If one cannot establish normal bowel movements without the use of cathartics the patient is still constipated, and until cathartics are stopped the patient will remain constipated. The reason for this is that 98 per cent of all constipation is "spastic" in nature, due to the following factors:

(1) Increased nervous tension due to modern methods of living, such as high power work, lack of recreation and substituting the automobile for legs.

(2) Advertising quacks and druggists promoting the widespread use of cathartics.

(3) Too much roughage in one's diet.

"Atonic" constipation, to use an aphorism, occurs chiefly in text books.

Most all long standing constipation patients have an associated colitis, either with or without a diverticulitis. Cathartics help continue the colitis. Not only "left sided pain" but bloating, nausea, distension and many of the symptoms that go with "gas" are increased by cathartics and relieved by their removal if in conjunction with a regime such as outlined below. We might even go so far as to say that a person sick from any cause is often made worse by cathartics. Hypochlorhydria and gall-bladder disease are closely imitated by spastic colitis—usually on the diverticulosis and catharsis basis.

Treatment.—If it is bad to use cathartics, what substitute have we?

If most constipation is of the "spastic" type, not only are cathartics bad usage but "roughage" should be eliminated from the diet until the spasm and the associated colitis have subsided. Too rough a diet at first stimulates motor activity of the bowel; and later, if forced, irritates and produces a colitis.

It has been my experience that long standing functional constipation patients respond promptly and, in the vast majority of cases successfully, to the following regime:

1. No cathartics.
2. Smooth diet.
3. Petrol agar, ounces one-half, one to three times a day.
4. Tincture of belladonna, minims 15, three times a day.
5. S. S. enema each morning as long as necessary.

The average response to this treatment will permit of the withdrawing of enemas in a week, cutting down the petrol agar to one dose a day the second week, and withdrawal of the tincture of belladonna about the end of the first month. A gradual introduction of roughage into a diet is started after symptoms of colitis disappear. It is often well to keep up the belladonna until the patient is satisfied that a cure is established.

It helps to inspire confidence in both patient and doctor if this treatment is preceded by a gastro-intestinal x-ray series or colon enema x-ray to rule out organic obstructive lesions. But this is not essential as the above "regime" if successful rules out organic lesions. Finally, it must be remembered that psychotherapy plays a large rôle in the management of constipation, and that this is best applied through the medium of a careful physical examination, x-ray examinations and the teaching of a certain amount of the anatomy and physiology of the G. I. tract. It is well to remind the patient that it is only the material in the last foot of the large bowel that becomes hardened to act as a cork and that an enema to wash this out is not harmful and only necessary until the above regime starts to work. To those patients who think that life depends upon one or two large bowel movements a day it might be well to explain Alverez's ingestion of colored bead studies in normal students which showed that it is not unusual for a week to elapse before food traverses from mouth to anus. The diagnosis of constipation based upon seventy-two hours barium retention is probably incorrect.

Summary.—1. The present widespread use of cathartics is to be condemned.

2. Ninety-eight per cent of all constipation is "spastic."

3. Chronic constipation with its associated colitis often stimulates hypochlorhydria, ovarian and gall-bladder disease, and even ulcer.

4. Chronic constipation requires a colitis regime.

5. In the cure of chronic constipation, the teaching of the normal anatomy and physiology of the intestinal tract building around x-rays of the patient's own stomach and bowels is a psychotherapeutic aid.

John William Shuman, M. D. (2007 Wilshire Boulevard, Los Angeles).—Cathartics, laxatives, physics and purgatives are numberless, ranging alphabetically from aloin to zeroline.

The habit of "taking something to make the bowels move" is so universal that the infant is too seldom permitted its first defecation of meconium without the artificial assistance of castor oil or enema. Long before the child can protest efficiently it has been "cascared, phenolaxed and salted." At no time was the long suffering intestine permitted to pass a normal non-liquid stool. In adolescence the lack of will to have a stool without a pill is further encouraged by parents, grandparents, quacks and near quacks. Hence manufacturers of patented diarrhea producing principles flourish and prosper.

Only a few evenings ago the three south windows of a drug store exhibited from left to right this bold advertising type: "Take Feenamint" (window No. 1); "Use Cascarets" (window No. 2), and "Snap Shot as You Go" (window No. 3)! The laity is so habituated to cathartics that surgeons have been heard to tell the patient three or four days before operation, "In order to open the bowels just take the dose and kind of cathartic you ordinarily use." A year ago the writer was in a modern first grade hospital for operation, and one of the attending surgeons ordered "a cathartic" for a patient. The floor nurse brought in a large tray of "foreign material" from which to choose, exactly as though it were French pastry.

Most adults become constipated when put to bed, the result of careful training in their youthful days.

Ninety per cent of so-called constipation is imaginary. The normal stool should be well formed, not liquefied. The stools of different individuals vary as to appearances. Habits vary greatly. With some it is perfectly normal to stool two or three times a day—with others, once every alternate day. However, there are some who feel that they have diarrhea if their bowels move more than once a week!

The average parent physics a child for headaches when the same may be due to eye strain; for a cold in the head and chest, when the intestinal canal is not ill; yes, and for stomach ache when gut obstruction, appendicitis or something just as grave is present and when a disturbance by cathartics may bring death dealing complications.

The layman takes cathartics for pimples, when thorough cleansing of the skin is essential. For gall, kidney and intestinal colics, when only the surgeon's knife will cure. And for head, back and limb pains which are caused by infection (not of the gut).

The Congo native begs the missionary for two, preferably three compound cathartic pills—eats until his stomach holds no more, climbs the tallest tree he can find—takes the pills and then roosts out on a limb until results. This typifies in a milder manner many of our own countrymen who go exlax through Chick Sales-manship.

There is a time for purging, for example, when one is waterlogged from heart and kidney failure. When the average person takes a cathartic, he wants to see action—copious thin watery stools. Result: irritation of already weakened bowels. Normal soft formed stools are far better.

Acute Respiratory Infections.—Noble and Brainard studied the anaerobic bacteria found in the filtered nose and throat washings of fourteen persons with colds, and eleven normal persons. The ordinary aerobic flora, which may grow anaerobically and obscure some of the more slowly growing anaerobes, was removed by using Berkefeld filters of the coarser grades. This procedure also removed anaerobic gram-negative cocci of the gazogenes type, which were found previously to be normal flora. Many anaerobic bacteria were isolated from the filtrates. Most of these were gram-negative, but there were a few gram-positive forms. The authors studied 114 strains, seventy-three being grouped tentatively according to their agglutinative reactions. The gram-positive flora, isolated from one patient with acute catarrhal coryza, consisted of two strains of bacilli, identical culturally and agglutinatively, and one strain of cocci. The gram-negative flora was much more numerous, a search disclosing minute cocci and bacilli of different sizes and forms. The cocci were similar culturally, but of four groups agglutinatively. The bacilli were even more heterogeneous, falling into several cultural and agglutinative groups; all were distinct from bacterium pneumosintes, which could not be found. These groups were distributed with approximately equal frequency among both normal control subjects and persons with colds. As to the significance of these observations, the fewness of strains of the gram-positive group and their demonstration in only one subject would weigh against their primary etiologic relationship. The almost universal occurrence of the gram-negative cocci and their innocuousness when injected into rabbits would indicate that they are normal saprophytic flora. The heterogeneity of the gram-negative bacilli, the approximately equal distribution of their groups among normal subjects and persons with colds, and the absence of epidemic strains would make it unreasonable to assign a causative rôle to any one of these organisms, even though it is apparent that pathogens exist among them.—*Jour. of Prev. Med.*, and *J. A. M. A.*, Vol. 98, No. 22.

Incidence of Nodules in Thyroid.—According to Rice, nodules occur as frequently in the postmortem thyroid that is assumed to be physiologically normal as in hyperfunctioning goiter operatively removed. The greater prevalence of colloid nodules in the postmortem thyroid may be due to the fact that differences in the degree of reversion, growth, differentiation and encapsulation have not been forced on the normal gland as strongly as they have in the toxic goiter. Multiple nodules are not found more frequently in hyperfunctioning goiters than they are in physiologically normal thyroids. Nodules are found in 56.95 per cent of the physiologically normal thyroids and in 57.14 per cent of the taxic goiters. Forty-two and eighty-five hundreds per cent of the toxic goiters have no nodules and are manifested as exophthalmic goiter. Thirty-five per cent of the thyroids that become hyperfunctioning can be classified as adenomatous goiter with hyperthyroidism. The remaining 22 per cent of glands contain nodules but manifest their hyperthyroidism as exophthalmic goiter. Diffuse hyperplastic goiter (exophthalmic goiter) occurs proportionately as frequently in glands with nodules as in glands without nodules. Lymphocytic foci are found more often in hyperfunctioning goiters than in normal thyroids. From these observations it appears that the presence of nodules in the thyroid is physiologically normal and that the incidence is not appreciably altered by the development of hyperthyroidism.—*Archives of Surgery.*

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EDITORIALS*

THE STATUS OF CALIFORNIA COUNTY HOSPITALS

Undesirable Activities and Scope of Some California County Hospitals.—Certain undesirable features which have crept into the county hospital picture of California were early noted by discerning members of the profession. For some years these evils have been the subject of earnest discussion at meetings of the California Medical Association Council. The encroachments on medical practice, brought about by the seemingly illegal and over-paternalistic activities of some of the county hospitals, were promptly recognized by the officers of the State Association and the desirability and necessity of opposing them duly appreciated.

* * *

Difficulties Met With in Trying to Abate County Hospital Evils.—The proper course of action to be followed to bring about an abatement of the evils was, however, a most difficult thing to decide upon. A mistake in procedure might not only lead to failure in adoption of proper remedies, but could easily make matters worse. It should be clear to all that the laudable and altruistic efforts on the part of the State to help those indigent citizens who at the same time are so unfortunate as to be sick or injured, and who need professional and institutional care to permit their return to health and useful economic citizenship, present a situation in which much harm can be done to the medical profession, unwise procedures are advocated in regard to county hospitals and similar institutions.

A conflict has arisen, not concerning the deserving patients in such institutions, but over those citizens who seemingly have no right under California law, as applied through its pauper act, to receive care in such institutions. The difficult task has been to find ways and means whereby such undeserving citizen patients may be prevented from entering county hospitals, without bringing down upon the profession the ill will of the public press and the lay public.

* * *

Conditions Which Favored the Introduction of Certain County Hospital Evils.—As one looks back at the development of the situation which exists today in some of the county hospitals of California it is evident that the hurly burly associated with the social and economic turmoil, that was so much a part of the days of the Great War and of its postbellum days up to our present time, gave a background in which certain county hospital evils easily came into being. Moreover, it must be recognized that during the war days, and in the optimistic economic years which followed up to 1929, citizens in all walks of life were so busy with their own prosperity adventures that little heed was given to non-personal controversial studies and activities. It is readily understood how under such conditions, through excessively liberal interpretation of the California pauper act, county governmental agencies improperly extended the scope of California county hospitals. As a consequence, the lay citizenship and the medical profession of California are today confronted with an extremely interesting public health problem, with confusing and serious aspects, both legal and economic, as well as medical. Earnest study, careful analysis and clear thinking are now very much needed if conditions are to be improved.

* * *

The Supporters of County Hospital Evils Are Now Well Entrenched.—It is regrettable that certain evils in the county hospital situation of California should have developed so rapidly and that the medical profession must now face organized and powerful opposition in its efforts to bring about a betterment of conditions. It is fortunate, however, that the problem has economic aspects of such magnitude as to have already enlisted the attention of lay organizations which are interested in the material resources and advancement of the State. It is possible that in coöperation with such agencies we may be able to decide upon measures which will lead to an elimination or at least a stoppage in the development of certain of the county hospital mal-activities. That is one of the hopeful signs on an otherwise rather uninviting county hospital horizon.

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* Editorials on subjects of scientific and clinical interest, contributed by members of the California Medical Association, are printed in the Editorial Comments column, which follows.

* * *

The Article by J. M. Peirce in the Department of Public Relations Column.—The attention of all readers of this journal is called to an article in the present issue in which "The Status of California County Hospitals" is discussed by John M. Peirce, M. B. A., economist of the California Taxpayers Association. This contribution is printed in the Department of Public Relations column (page 204).

In that article Mr. Peirce presents some illuminating figures and comments. Especially interesting is the table compiled from the *Journal of the American Medical Association* hospital number showing the number of patients respectively treated in tax-supported and private hospitals in forty-three California counties. The facts and figures presented explain why every county medical society in California should give a portion of one of its September programs to a consideration of this paper, both in its general relationships and in its applications to its own county. It is also apparent why every county medical society committee on county hospital and associated institutions and activities should be more than a figurehead committee. Every such committee should obtain a copy of the last annual report of its own county hospital and have at least a first hand knowledge of the scope of the activities of the institution, the economic resources of the patients admitted, the complexion of its resident and attending staffs, the extent to which political or other detrimental influences improperly enter into the management of the institution, as well as of other matters of medical, economic and social interest. When such reports are presented to the county societies, provision should be made for proper discussion. A copy of each report should be sent to the California Medical Association Department of Public Relations because the State Association needs accurate and comprehensive data concerning every one of the county hospitals of California.

* * *

Some Interesting Excerpts from Mr. Peirce's Article.—Mr. Peirce in his paper calls attention to the fact that

> " . . . Whereas last year the 313 private hospitals in the state cared for an average of 10,873 patients, the 67 county hospitals cared for an average of 10,034 patients or 49 per cent of the total. Thus, nearly half of our population is dependent upon charity when in need of hospital care."

The California pauper act, concerning which considerable has been printed in the past in this journal,* is also discussed by Mr. Peirce, and he calls attention to an improper application of that act in the following paragraph:

> " . . . The state law governing the responsibility of the counties in connection with the dependent poor is known as the 'Pauper Act.' In the strict meaning of the word, an indigent or pauper is a destitute person, having neither money nor a personal source of money. Yet, it is common knowledge that counties do not limit hospital admissions to paupers. Because of a vague definition of the word 'indigent,' much unwarranted use of county hospitals exists."

One other quotation from this article by a layman may here be given for emphasis:

> " . . . The fact still remains, however, that the taxpayers are providing free care for nearly half of our general hospital population. Obviously, this proportion is too great, and only because of laxity in admitting patients to county hospitals has this condition been allowed to develop. Not only has it placed a substantial burden on the taxpayers, but the practice deprives private hospitals and practicing physicians and surgeons of patronage to which they are entitled.
>
> "During the extended period of prosperity which culminated in October, 1929, our citizens appeared largely indifferent to abuses such as these. Everyone seemed to be prosperous enough to ignore the rising tide of taxation. Governmental services were expanded and costs mounted. The burden grew, but the public appeared quite able to carry it. Conditions have now changed, however, and we find it necessary to scrutinize each and every dollar more closely. Thus, the cost of our county hospitals is a matter of grave concern to the taxpayer, not from the standpoint of evading a social responsibility, but rather with the view of eliminating the abuse to which these institutions have been subjected. . . . "

As already stated, it is hoped that all readers of California and Western Medicine will take the time to read and think about Mr. Peirce's analysis of certain phases of California county hospitals. It is also hoped that members of county medical societies in California will insist on a discussion of this important and complicated problem at early meetings. Suggestions and information from county societies concerning their county hospitals will be gladly welcomed by the California Medical Association Department of Public Relations. That newly organized department of the California Medical Association can only function to best advantage when it has the full coöperation of the component county medical societies. It is earnestly hoped that such coöperation will be generously given. The county hospital situation in California can be clarified and improved if all county medical societies will accept their responsibilities in the solution of that problem by study of their local conditions and reporting thereon as above indicated.

CUBAN DOCTORS ON STRIKE

That Seemingly Impossible Event, "A Doctors' Strike," Becomes a Reality in Cuba.—The caption "Cuban Doctors on Strike" appeared in the Los Angeles *Times* of August 17 last, at the heading of a dispatch from Havana. The article is reprinted in this number of California and Western Medicine (page 207), because it presents a concrete example of a suggestion not infrequently heard in recent years when the activities of certain county hospitals in California have been under discussion. We have always waived aside the plan of a strike because of our belief that such an effort, no matter how justified, if attempted anywhere in the United States, would probably do more harm than good and fail of its purpose. It is interesting to note that in another part of the world, namely in Cuba, such a "doctors' strike" has actually occurred. It is to be hoped that future news dispatches will inform the American medical profession of the ultimate results of this new foreign flare in medical economics.*

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* Editor's Note.—California and Western Medicine of March, 1931, page 219, prints some interesting information concerning California laws and activities having a relationship to the Pauper Act.

* * *

"Cuban Health Insurance Societies" Were Discussed in the February California and Western Medicine.—Readers of this JOURNAL may recall that in the February CALIFORNIA AND WESTERN MEDICINE (page 116), were printed some comments under the heading: "Health Insurance Societies in Cuba—Pseudo State Medicine, and with a Vengeance." Those comments were based on the editor's observations of Cuban "health societies" and of the Cuban Medical Federation on a visit he made during the recent Christmas holidays. An article in the same issue, pages 139-141, was illustrated with exterior and interior views of one of the Havana health association "palaces."

The importance to American organized medicine of having accurate information concerning the Cuban health associations, and of the deplorable conditions existing in Cuban medical practice, led the California Medical Association to present at this year's New Orleans meeting of the American Medical Association some resolutions dealing with that subject. In those resolutions (page 253 of the April CALIFORNIA AND WESTERN MEDICINE), the American Medical Association was requested to have a survey made of Cuban medical practice and health associations and to disseminate the information so collected among the constituent state medical associations. At the time the editor wrote his observations he had little thought that the tension existing between the Cuban Medical Federation and the health insurance societies of that country would manifest itself at so early a day in "a doctors' strike," although some of the Cuban colleagues stated to him that, if conditions could not be improved otherwise, a "strike" might be a necessary consequence.

* * *

Cuban "Health Insurance Societies" Would Not Compromise.—The conditions which existed in December last, and which were discussed in the February CALIFORNIA AND WESTERN MEDICINE, evidently became more acute during this present year. The dispatch states:

> "Inability to arrive at a satisfactory solution following six weeks of bitter controversy resulted in the strike."

The strike evidently precipitated a situation so acute as to lead to prompt recognition and intervention by the Cuban Government, as witness the following paragraphs:

> "President Machado tonight decreed immediate government intervention in the strike today. Octavio Zubi-Zarotta, Secretary of the Interior, was ordered to take steps to assume control of all private Spanish regional associations and medical institutions.
>
> "Zubi-Zarotta ordered the Secretary of Sanitation, Carlos D. Cespedes, to appoint government physicians to replace strikers so that patients' lives will not be endangered.
>
> "The President sent an urgent message to directors of the Medical Federation demanding that the physicians return to their posts immediately and promising government arbitration and settlement within seventy-two hours."

* * *

Governmental Intervention and Promise of Arbitration Probably Called Off the Strike.—In an evening Los Angeles paper of August 17 appeared a dispatch under the heading "Cuban Doctors Back at Work," one paragraph of the text reading as follows:

> "Havana, Cuba, Aug. 17.—Physicians who called a strike of doctors in six coöperative society clinics on Monday night relented today and returned to their posts temporarily, pending efforts to settle the controversy."

* * *

Organized Medicine in Cuba and America Face Different Environments.—The conclusion to be drawn from the above later dispatch is that the Cuban Medical Federation probably accepted President Machado's offer of arbitration and prompt settlement of the issues in dispute.

For those who would be tempted to invoke similar action in America, it is well to remember, as was stated in the February editorial comments, that practically every physician in Cuba is a member of the Cuban Medical Federation, and that the organization seemingly has much greater disciplinary power than exists in medical organizations of the United States. The official journal of the Cuban Medical Federation prints stenographic reports of all meetings of the board of directors of the organization, so that members of the Federation are as familiar with the issues under discussion, and the future steps contemplated, as are the directors themselves. The existence of such conditions in part explains why the Cuban Medical Federation was able to take its somewhat drastic action. Perhaps a real betterment of medical practice conditions in Cuba will be the result.

In the interest of medical organizations in the United States, it is to be hoped that the Board of Trustees of the American Medical Association has or will authorize the collection of adequate information on the Cuban medical situation. Through such facts the physicians of the United States will be able properly to orientate themselves in regard to the health insurance and medical practice problems in question and thus be in position more promptly to recognize American tendencies in similar directions. To be forewarned is to be forearmed.

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* As this issue of California and Western Medicine goes to press, comment on the Cuban medical situation is noted in the *Journal A. M. A.* of August 27, page 765.

MEDICAL FEE SPLITTING IN NEW YORK

The Governor Roosevelt-Mayor Walker Discussion of a Problem in Medical Ethics.—For many years the subject of medical fee splitting has been given considerable attention in committee reports of county, state and national medical organizations. Much space also has been given in the medical press to committee and other reports, and to articles on the subject. The American College of Surgeons, when it came into existence in the year 1913, laid down as one of its qualifications for membership a signed statement from each candidate that he would not engage in fee splitting. Many medical societies and attending staffs of hospitals have somewhat similar requirements. The subject is therefore an old one to members of the medical profession.

But with all the above publicity, it may be affirmed that the subject of fee splitting never broke into the public press in such intensity, and in connection with a newspaper topic of such general public interest, as it did in the Governor Roosevelt-Mayor Walker hearing on August 17, in Albany, New York.

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What Will Be the Effect of the Testimony Submitted?—We have no desire to become involved in a discussion of the merits or demerits of the political issues in the above referred to hearing. Nevertheless, for those readers who failed to note this particular testimony, as given in the news dispatches, the excerpts printed below may be of interest. The testimony in this cause celebre has been followed by hundreds of thousands of newspaper readers. It is certain to have a certain amount of educational influence on the laity. As time goes on, the repercussions of the testimony about division of fees will no doubt be noticed in the lay press, in legislative halls and other places. In the meantime members of the medical profession can ask themselves what influence they believe the questions and answers in the following excerpts will have on future lay opinion in these matters. The excerpts follow:

"Q. (By Governor Roosevelt.) But do you consider the splitting of fees among doctors in city cases a proper practice? A. (By Mayor Walker.) It depends upon the circumstances. . . .

"Q. Don't you think it would have been a natural thing for you to do, with your brother charged with splitting fees, to order an investigation? A. I don't know whether, of itself, that splitting fees is wrong.

"Q. Do you think such fee splitting was proper ethics? A. If the city was not defrauded and the doctors had an arrangement to split up their work and divide the fees accordingly, I don't see anything unethical about it."

Irradiation of Mammary Cancer.—Lee and his associates state that preoperative external irradiation for mammary carcinoma is of value, as is proved by (1) the occasional regression of tumors so treated; (2) the histologic changes produced, and (3) the better clinical end-results. An efficient devitalizing dose cannot be delivered by external irradiation alone. To deliver an efficient dose one must use interstitial irradiation. The tissue dose delivered to the tumor should be measured and expressed in skin erythema units. This dose should be prescribed. Tables prepared in the physical department enable the clinician to translate into terms of skin erythema units the tissue dose delivered, whether by external or interstitial irradiation. The universal tissue dosage necessary to effect destruction of a radioresistant mammary cancer approximates twelve skin erythema doses. The safest procedure is to treat all patients with mammary cancers with the same sufficient dose, because (1) radiosensitivity cannot always be determined before operation, and (2) the same tumor may contain radioresistant .and radiosensitive areas Mammary cancers vary markedly with respect to radiosensitivity. The mammary gland will tolerate safely an enormous dose of interstitial irradiation. The possible menace of dissemination of the disease by the method of interstitial irradiation is considered. The authors have not seen evidence of such a dissemination in this series. Preliminary external irradiation lessens this possibility. All preoperative irradiation should be given within three weeks or less time. Six weeks should elapse following interstitial irradiation before radical amputation is performed. An interval of six weeks is necessary, because after this interval (1) the effects of irradiation are complete; (2) complete destruction of the tumor is accomplished, and (3) wound healing is unimpaired. The authors' present treatment for primary operable mammary cancer is external irradiation, then interstitial irradiation and finally radical amputation six weeks later. The axilla is irradiated by (1) preoperative roentgen rays or radium element pack, followed by (2) interstitial gold-filtered radon distributed along the lymph-node-bearing areas. The pathologic changes produced in mammary cancer by external irradiation are mainly due to vascular effects. There are moderate hydropic swelling of the tumor cells, moderate atrophic degeneration, marked collagen swelling, productive arteritis with thrombosis and calcific deposits in the vessel walls and productive fibrosis. The changes produced by interstitial irradiation are mainly direct effects on the tumor tissue, namely, ballooning degeneration, hydropic swelling, giant nuclei and atypical degenerative mitoses, a tendency toward squamous metaplasia followed by sloughing, hemorrhage, infiltration by fatty macrophages with ensuing extensive calcific deposits, often acute capillary necrosis with resultant tumor necrosis, squamous metaplasia of normal adjacent lobules in the breast, collagen swelling, productive fibrosis and late atrophy of the residual tumor.—*Archives of Surgery.*

Metaphen-in-Oil in Pulmonary Cavitation.—Jacobs believes that collapse therapy and thoracoplasty constitute the only rational treatment in the management of pulmonary cavitation. In the far advanced and inoperable cases, external drainage should be encouraged. This can be accomplished by intrapulmonary medication with different drugs dissolved in oil, which should be followed by postural drainage. With this method, the expectoration is mechanically facilitated and reduced. The cough is diminished and the temperature, pulse and respiration are greatly improved. Thus far in the author's experience, metaphen-in-oil, 1:5000 solution, has proved to be the best available agent. It has antiseptic properties, and it is nontoxic and nonirritating.—*American Review of Tuberculosis.*

Adenoidectomy.—Hill calls attention to the fact that while adenoidectomy is a simple procedure it is more difficult to achieve a clean result in that operation than in tonsillectomy. This is due to a tendency to hurry through this part of the combined operation, to the handicap of the bleeding, to dull instruments and to the difficulty of working in a blind space. Visual inspection of the nasopharynx will reveal many tags and remnants and will expedite their removal; it should be employed as a routine measure.—From the *Archives of Otolaryngology*, Chicago, in *Journal of the American Medical Association*, February 27, 1932.

EDITORIAL COMMENT

This department of California and Western Medicine presents editorial comment by contributing members on items of medical progress, science and practice, and on topics from recent medical books or journals. An invitation is extended to every member of the California and Nevada Medical Associations to submit brief editorial discussions suitable for publication in this department. No presentation should be over five hundred words in length.

Homeopathy and the Landsteiner Phenomenon.—One could paraphrase the familiar *"similia similibus curantur"* of Hahnemann by the postulate that, in proper doses, "each and every symptom-producing drug acts as a heterophile, symptom-specific vaccine, increasing personal resistance to each and every pathogenic factor of the same symptom-specific group."

Thus far, American immunologists have shown no interest in this early Victorian prototype of their logic, due to the fact that they have failed to obtain convincing experimental evidence that noncolloidal pharmacodynamic agents are demonstrably antigenic. The recent development of new immunologic techniques by means of which numerous simple noncolloids are apparently raised to full antigenicity, however, may conceivably broaden the field of modern immunological research to include numerous pharmacodynamic crystalloids. These crystalloid techniques arose from the well-confirmed observations by Landsteiner and his colleagues [1] that numerous apparently nonantigenic crystalloids (*e. g.*, phenylacetic acid) may acquire demonstrable humoral antigenic powers, if united chemically with a protein "carrier." The protein-crystalloid complex injected into laboratory animals leads to the development of a duplex antiserum, one part of which acts as a crystalloid-specific fractional precipitin (or precipitin variant). With this "fractional antibody," the crystalloid can be identified either in the free state or when combined with a protein "carrier." This identification is made with the same ease and certainty that *B. typhosus* can be differentiated from the colon bacillus.

The suggested application of the Landsteiner conjugation technique to a serological verification of the basic tenet of homeopathy is, of course, but one of the numerous, apparently feasible, clinical applications of the new "crystalloid immunology."

Stanford University.

W. H. Manwaring,
Palo Alto.

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[1] Landsteiner, K., and van der Scheer, J.: J. Exper. Med., 48:315 (Sept.), 1928; 54:295 (Sept.), 1931.

Control of Diuresis Through Narcotics.—It was pointed out in 1886 by von Schroeder that morphin opposed caffein diuresis in animals, but little attention was given to the subject of the control of urinary formation by centrally acting drugs until interest was revived by E. B. Pick and his collaborators in Vienna less than a decade ago. The Viennese pharmacologist noted that merely restraining unanesthetized animals markedly decreased diuresis produced by water, but that if such animals were decerebrated, and allowed to recover from the operation, water diuresis was not altered by handling of the animal. This led them to test out various depressants of the central nervous system, with the discovery,[1] confined by Godlowski [2] and very recently by Nyary,[3] that paraldehyd and chloral hydrate augment water diuresis, while phenobarbital (luminal) and chorbutanol (chloretone) oppose the diuresis. Barbital has an intermediate effect. Nyary has demonstrated further a paradoxical effect of phenobarbital in that it favors, rather than opposes caffein diuresis. Bonsman [4] and Fee [5] have confirmed the early observations of von Schroeder regarding morphin.

From his experiments with normal and decerebrated animals, Pick concludes that diuresis is controlled by a subcortical center located probably in the hypothalamus. With this assumption, he can divide narcotic drugs into those acting on the cerebral cortex, to remove inhibition of the diuretic center (paraldehyd, chloral hydrate) and those affecting the brain stem (phenobarbital, chorbutanol). Such a classification is not new, but it still lacks the sufficient support for its general acceptance.

The subject has important practical implications which should be tested out extensively. We are in almost complete ignorance of the effect of these drugs upon diuresis in the human. It is not infrequent that morphin is administered to patients undergoing treatment with diuretic drugs, as in cardiac edemas, yet we have practically no accurate information as to whether the morphin antagonizes the effect of the diuretic. The possibility that strychnin, atropin and phenobarbital, as used in the treatment of enuresis, may affect urine formation, as well as bladder control, is suggested by the experiments of the Viennese workers. The whole subject is a field wide open for clinical investigation.

Department of Pharmacology,
University of Southern California.

C. H. Thienes,
Los Angeles.

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[1] Molitor, H., and Pick, E. P.: Biochem. Zeit. 186:130, 1927.

[2] Godlowski, W. J.: Arch. Exp. Path. Pharm., 156:85, 1930.

[3] von Nyary, A.: Arch. Exp. Path. Pharm., 162:565, 1931.

[4] Bonsman, M. R.: Arch. Exp. Path. Pharm., 156:160, 1930.

[5] Fee, A. R.: Jour. Physiol., 68:39, 1929.

C. M. A. DEPARTMENT OF PUBLIC RELATIONS

An open forum for progress notes on the department's activities, and for brief discussions on medical economics. Correspondence and suggestions invited. Address Walter M. Dickie, Room 2039, Four Fifty Sutter Street, San Francisco. This column is conducted by the Director of the Department.

The Status of California County Hospitals—Are They Escaping Normal Bounds[*]

By John M. Peirce, M. B. A.
Los Angeles

In California the care of the indigent sick and injured is the legal responsibility of the counties. Sixty-seven county hospitals and sanitariums are operated for this purpose at an annual cost of over $15,000,000. These institutions maintain approximately 12,800 beds; and last year an average of 10,034 patients were in residence within their walls. The sizes of these hospitals range from five beds in the smallest county to 1,564 in the largest county.

MAGNITUDE OF TAX-SUPPORTED HOSPITALS

The magnitude of these tax-supported institutions can better be gauged by comparison with hospitals maintained by private associations, churches and other agencies. Whereas last year the 313 private hospitals in the state cared for an average of 10,873 patients, the 67 county hospitals cared for an average of 10,034 patients or 49 per cent of the total. Thus, nearly half of our population is dependent upon charity when in need of hospital care.

THE SITUATION IN CALIFORNIA

The accompanying tabulation presents detailed statistical data on each of forty-three California counties. The average number of hospital patients in each of these counties is shown, together with the number of patients per 1,000 population. The most interesting figures, however, are contained in the last two columns, showing the distribution of patients as between tax-supported hospitals and private hospitals.

That someone must care for the unfortunate cannot be questioned. It is one of our greatest social responsibilities and we must expect to meet it. Grave doubt exists, however, over the matter of deciding who shall qualify as subjects of charity. The state law governing the responsibility of the counties in connection with the dependent poor is known as the "Pauper Act." In the strict meaning of the word, an indigent or pauper is a destitute person, having neither money nor a personal source of money. Yet, it is common knowledge that counties do not limit hospital admissions to paupers. Because of a vague definition of the word "indigent," much unwarranted use of county hospitals exists.

The average American family, for example, being supported from the income of a wage-earner, is generally able to afford moderate luxuries such as an automobile, a radio, confectionery, tobacco, cosmetics, and theater entertainment. Because of this fact, such a family cannot be considered as indigents or paupers. Yet, when this family requires hospital care, it appears quite proper for it to seek admission to the county hospital to be cared for at public expense and to receive free professional service from local physicians and surgeons who donate their services to charity cases.

HOW COUNTIES DIFFER

Counties differ in their attitude toward the dependent poor. Some are so liberal in their expenditures for this purpose that indigents from neighboring counties, other states and even foreign countries, soon become attracted to the locality, explaining that they have come because this or that county is "so good to the poor." Not only does this generosity encourage migration of genuine indigents, but it invites local residents to seek admission to tax-supported hospitals, whether or not they are indigents in the true meaning of the word.

Other counties, however, are less generous in their expenditures on charity and as a result their hospital facilities are very mediocre. In fact, approaching the opposite extreme, some maintain institutions that are hardly fit for use as hospitals.

Regardless of the quality of charity service rendered, county boards of supervisors are indeed faced with a dilemma in this connection. If they do not provide adequate care for the dependent poor, they will be subject to criticism from a humanitarian standpoint; whereas if they provide luxurious care, they invite criticism because of extravagance in the use of public funds.

BURDEN ON THE TAXPAYERS

The fact still remains, however, that the taxpayers are providing free care for nearly half of our general hospital population. Obviously, this proportion is too great and only because of laxity in admitting patients to county hospitals has this condition been allowed to develop. Not only has it placed a substantial burden on the taxpayers, but the practice deprives private hospitals and practicing physicians and surgeons of patronage to which they are entitled.

During the extended period of prosperity which culminated in October, 1929, our citizens appeared largely indifferent to abuses such as these. Everyone seemed to be prosperous enough to ignore the rising tide of taxation. Governmental services were expanded and costs mounted. The burden grew but the public appeared quite able to carry it. Conditions have now changed, however, and we find it necessary to scrutinize each and every dollar more closely. Thus, the cost of our county hospitals is a matter of grave concern to the taxpayer, not from the standpoint of evading a social responsibility, but rather with the view of eliminating the abuse to which these institutions have been subjected.

WHY COUNTY HOSPITALS HAVE ESCAPED THEIR BOUNDS

An interesting question arises in connection with the county hospital situation. Various groups offer explanations, each presenting a slightly different reason. Upon analysis, however, it appears that no single factor has been responsible, but rather a combination of factors. The following may constitute at least a partial list of the reasons why county hospitals have in recent years escaped their normal bounds:

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[*] The Taxpayers Association of California, in its investigation on county hospitals, has given the medical profession a great deal of valuable material for thought and study. The use of county hospitals in the last few years has grown to the point where 49 per cent of the hospitalization of the state is cared for in public institutions.

Merced County, with a population of 29,000, has 85 per cent of the hospitalization cared for in the county hospital, while Kern County, with a population of 82,570, cares for 78 per cent of the hospital cases in the county hospital. Many county hospitals now charge patients who can afford to pay. In other words, the county hospital of the past is rapidly becoming a community institution.

The physician who gives his services free in these institutions is beginning to find that he is called upon not only to care for the indigent patient but for those who can afford to pay for private hospitalization. How long before the doctor will find his own private patients in public hospitals expecting free medical care?

For additional discussion of hospital costs, see pages 199 and 214.

1. Indifference on the part of the taxpayers toward the rising cost of county hospitals, thus making available to these institutions a more generous source of revenue than would otherwise be the case.
2. The occasional practice of our public officials using county hospitals for political patronage.
3. The ambition of county hospital executives to administer attractive institutions which in turn eliminates much of the stigma attached to charity.
4. The tendency of physicians and surgeons to demand expensive facilities in county hospitals as a courtesy to them in return for the donation of their services. Elaborate facilities obviously attract a wider range of patients.
5. The indifference of private hospitals in connection with the increasing competition of tax-supported hospitals.
6. The absence of a satisfactory financial plan to accommodate the needs of the middle class, who are neither able to afford costly hospital care, yet not strictly eligible for charity.

WHAT OF THE FUTURE?

The status of many of our county hospitals has thus reached the point where they are no longer institutions for the exclusive care of the dependent poor, but rather community hospitals supported almost entirely by taxation. Not only are they straining the public purse, but they are encroaching upon private enterprise to an alarming extent. Indifference accompanying prosperity no doubt has been largely responsible for this condition, but with the coming of financial adversity a change in attitude must be expected, not one which will be detrimental to the unfortunate but rather one which will help correct an abusive use of our system of public charities.

Veterans' Hospitals—A Minnesota Plan and Resolutions

As a result of numerous conferences in different parts of the country between the representatives of the American Legion, the American Legion Posts, the American Hospital Association, the American Medical Association, and the Veterans' Bureau, it is believed that the existing plan for care of disabled veterans, especially the nonservice connected cases, is unfair to the veterans, especially in acute emergency cases when the veteran is taken acutely ill at his home, and should be changed to allow these cases to be cared for in their home town.

After an intensive study of this situation it has been clearly demonstrated that for many reasons, as stated below in the resolution, it would be advisable to change our present law regarding hospitalization and care of emergency cases as suggested in the "'Minnesota Plan."

First, we, as members of the ex-service men's organization, wish to obtain prompt and efficient hospital and medical care for all veterans entitled to the same. Secondly, we realize that this should be done in the most economic way possible. We feel that the existing local hospitals should care for acute and emergency cases and that the present veterans' hospitals should care for the veterans suffering from war-con-

TABLE 1.—*Patients in Tax-Supported and Private Hospitals in Forty-three California Counties—Year 1930**

Counties	Average Number of Patients			Patients per 1,000 Population			Per Cent of Total	
	Tax-Supported	Private	Total	Tax-Supported	Private	Total	Tax-Supported	Private
Alameda	966	918	1,884	2.03	1.93	3.96	51.27%	48.73%
Amador	4	5	9	0.47	0.59	1.16	44.44	55.56
Calaveras	6	4	10	1.00	0.67	1.67	60.00	40.00
Colusa	34	5	39	3.31	0.49	3.80	87.18	12.82
Contra Costa	160	84	244	2.04	1.07	3.11	65.57	34.43
Del Norte	10	5	15	2.11	1.05	3.16	66.67	33.33
Eldorado	34	14	48	4.08	1.68	5.76	70.83	29.17
Fresno	403	188	591	2.79	1.30	4.09	68.19	31.81
Glenn	12	......	12	1.10	......	1.10	100.00	....
Humboldt	188	100	288	4.35	2.31	6.66	65.28	34.72
Kern	327	92	419	3.96	1.11	5.07	77.86	22.14
Kings	93	27	120	3.66	1.06	4.72	77.50	22.50
Los Angeles	2,297	4,062	6,359	1.04	1.84	2.88	36.12	63.88
Madera	35	25	60	2.04	1.46	3.50	58.33	41.67
Merced	210	35	245	5.71	0.95	6.66	85.71	14.29
Modoc	10	......	10	1.24	......	1.24	100.00	....
Monterey	71	66	137	1.32	1.23	2.55	51.82	48.18
Nevada	52	17	69	4.91	1.60	6.51	75.36	24.64
Orange	190	102	292	1.60	0.86	2.46	65.08	34.92
Placer	102	222	324	4.17	9.07	13.24	31.48	68.52
Riverside	198	100	298	2.44	1.23	3.67	66.44	33.56
Sacramento	431	292	723	3.03	2.06	5.09	59.61	40.39
San Benito	24	......	24	2.12	......	2.12	100.00	....
San Bernardino	250	177	427	1.87	1.32	3.19	58.55	41.45
San Diego	520	332	852	2.48	1.58	4.06	60.96	39.04
San Francisco	1,460	2,247	3,707	2.30	3.54	5.84	39.38	60.62
San Joaquin	522	149	671	5.07	1.45	6.52	77.79	22.21
San Luis Obispo	38	29	67	1.28	0.98	2.26	56.72	43.28
San Mateo	129	336	465	1.67	4.34	6.01	27.74	72.26
Santa Barbara	130	250	380	1.99	3.84	5.83	34.21	65.79
Santa Clara	507	306	813	3.49	2.11	5.60	62.36	37.64
Santa Cruz	15	27	42	0.40	0.72	1.12	35.71	64.29
Shasta	52	20	72	3.73	1.44	5.17	72.22	27.78
Sierra	10	5	15	4.13	2.06	6.19	66.67	33.33
Siskiyou	35	26	61	1.37	1.02	2.39	57.38	42.62
Solano	68	......	68	1.67	......	1.67	100.00	....
Sonoma	92	45	137	1.48	0.72	2.20	67.15	32.85
Stanislaus	196	83	279	3.46	1.47	4.93	70.25	29.75
Sutter	43	14	57	2.94	0.96	3.90	75.44	24.56
Tulare	92	53	145	1.19	0.68	1.87	63.45	36.55
Tuolumne	25	36	61	3.70	3.88	6.58	40.98	59.02
Ventura	90	53	143	1.64	0.96	2.60	62.94	37.06
Yuba	59	31	90	5.21	2.74	7.95	65.55	34.45
Totals and weighted averages	10,190	10,582	20,772	1.88	1.95	3.83	49.06%	50.94%

* Source: Journal of American Medical Association, March 28, 1931.

nected disabilities and chronic cases, such as tuberculosis, neuropsychiatric, and other chronic diseases.

It is estimated that the maximum hospitalization will require in 1947 a total of 130,000 beds. After that the number of veterans will rapidly decrease, and when the intended veterans' hospital building program has been completed, it is estimated that the present fifty-four veterans' hospitals, with their 25,900 beds, now filled with from 60 to 76 per cent of nonservice disability connected patients, would be increased to approximately five times that number, with an increase of 104,000 with a total of 130,000, and that from 1947 on these hospitals would still be standing to be maintained by public funds while the number of veterans will be rapidly decreasing, leaving this immense, unnecessary construction on the hands of the American people. We feel that it would be more efficient to use the present community hospitals for these increasing cases so that these institutions in our towns and cities might be kept up and perpetuated for the care of not only the veterans but everyone that may need them now and in the future.

* * *

The Minnesota Plan has been worked out to take care of this emergency situation, and is as follows:

A MINNESOTA PLAN FOR HOSPITALIZATION OF ACUTE VETERAN CASES

Veterans classed as acute medical and surgical emergency cases may have the privilege of being cared for in their local hospitals, approved by the Veterans' Bureau and by local physicians of their own choice, who must also be approved by the Veterans' Bureau. The hospital, medical expense, and the physician's and surgeon's fees to be paid by the Veterans' Bureau, through contracts and fee schedule agreed upon by the hospitals, doctors, and the Veterans' administration.

RESOLUTION

(Resolution adopted by Abner Rude Post 481 of the American Legion, South St. Paul, Minnesota.)

Whereas, The Act of Congress of 1926 provides in substance that all veterans should be admitted to veterans' hospitals free of charge, without regard to the nature of origin of their disability; and

Whereas, In 1930 60 to 76 per cent of the admissions to veterans' hospitals were for disabilities that were not of service origin; and

Whereas, In June, 1931, there were fifty-four veterans' hospitals with 25,930 beds, making an increase during the preceding year of seven hospitals with 3,575 beds. In 1932 the admissions showed 60 to 76 per cent nonservice, and 22 per cent service-connected cases. The Veterans' Bureau estimates that approximately 130,000 beds instead of the present 26,000 will be needed ultimately for the adequate care, without discrimination for the veterans entitled to hospitalization under the act of 1926. Therefore, under the present policy of the National Government more than 104,000 additional beds will be necessary. The total cost of construction at $3,500 each will be $455,000,000 with $229,000,000 maintenance cost per year. The cost of equipment being another staggering figure, and the average transportation cost being $30.58 per veteran, on an estimate of 130,000 admissions annually, would mean another $4,500,000. The transportation cost for one diagnostic hospital at present is estimated at $1,500 a day or $5,475,000 a year, so the possibility for fifty-four of these hospitals is another fabulous sum. This transportation cost is not figuring into the cost of hospital beds. In addition, the Government spends large sums of money for dental service in the veterans' hospitals, which could also be taken care of in the home towns; and

Whereas, The advantages to the veteran from the Minnesota plan are: First, promptness of care in local hospitals, which is often the deciding factor in determining the ultimate outcome. Second, distant transportation in case of pneumonia, acute appendicitis, compound fractures, hemorrhage, etc., may afford enough of a handicap to prevent ultimate recovery. Third, local care enables the veteran to choose his own physician, one whom he knows personally and in whom he is likely to have more confidence than in a total stranger. Fourth, the veteran remains in his home town, where he can be visited by his family and be in touch with his business instead of being marooned at a distant hospital at a time when home contacts are so important to his own and his family's welfare. Loss of time, which means loss of income, is often much greater when the veteran leaves home. Often the period of hospitalization is prolonged in the veterans' hospital because of the necessity of observation and by the attending physician until complete convalescence is assured; and

Whereas, The advantages to the community from local hospitalization are many. It means that the money spent for the veteran's care is to be kept in that town through the hospital, the doctor, the druggist, the nurse and the dentist, and all who will receive patronage. One does not have to be an economist to appreciate the return to the individual from the patronizing of home industries. The income from veteran cases to local hospitals might, oftentimes, be just enough to keep the hospital going so that it might care for others in the community when necessary; and

Whereas, The advantage to the taxpayers of the Minnesota plan is direct, inasmuch as it will practically do away with the tremendous cost of building five times the number of veteran hospitals we have today and of maintaining these, and instead taking advantage of the hospitals already built in the many cities. It is estimated that each person in the United States pays $10 per year toward the care of veterans now, and this intended extensive building program would approximately increase this to $30 a person or $120 for every man with a family of two children; and

Whereas, The comparative cost between the veterans' hospitals and private hospitals is estimated to be much less through the private hospitals or the Minnesota plan in that it would not include the construction cost or the transportation cost, and would greatly decrease the time of hospitalization necessary. It is estimated, through all figures obtainable, that the maintenance cost of a bed at the Veterans' Hospital is about $5 a day, that being without the transportation, the construction cost or the interest on investments, etc. While it is customary for the hospitals to contract with the Government for ward beds at $2.50 to $3 a day, the average cost of which probably would be some higher, including all x-rays, medications, etc., but it is estimated that it would be considerably cheaper for these acute cases in private hospitals; and

Whereas, Approximately 70,000 beds are available in the civilian hospitals of the country, the utilization of which would make it possible to provide immediate hospitalization for the afflicted veterans entitled thereto at an expenditure estimated by persons who have made a study of the situation, at a figure much less than that necessary if veterans' hospitals are erected and operated by the Government of the United States; and

Whereas, We, ex-service men of Minnesota, believe that adequate care should be provided by the most economic methods that will insure prompt relief to the acutely disabled veterans; now therefore be it

Resolved, That we, the members of the Abner Rude Post 481 in the State of Minnesota, highly recommend the adoption of the Minnesota plan for the hospitalization of acute emergency medical and surgical cases of veterans in local hospitals, and that our committee notify the state department of the American Legion of our action and do whatever possible to encourage the adoption of the above plan by our national government.

* * *

PROPOSED RESOLUTION

Whereas, The Government through its Act of Congress of 1926 has obligated itself to care for all veterans in veterans' hospitals without regard to the nature of their disabilities, and that to carry out such a program would necessitate an expansion of the capacity of the hospitals from about 35,000 to 129,000 or more beds, an anticipated enormous initial and annual expenditure; and

Whereas, There are available in civilian hospitals more than sufficient vacant beds to properly care for all veterans suffering from acute medical and surgical disabilities not of service origin; and

Whereas, The use of civilian hospitals, which we all support directly or indirectly, would obviate the need of duplication of a great mass of equipment at public expense, and keep money in our own community; and

Whereas, Care of acute medical and surgical nonservice-connected cases of veterans in their home communities will be better for the veterans for the following reasons:

Experience has proved that transportation of certain emergency cases for considerable distances to veterans' hospitals, with consequent delay of treatment, has been dangerous and sometimes even fatal;

Veterans living considerable distances from veterans' hospitals suffer relative handicaps in treatment, especially regarding the observation often needed after leaving the hospital;

Care in his home community would prevent separation of the veteran from contact with his family, a matter of some importance in preservation of the morale and cohesion of the family; now therefore be it

Resolved, That we declare ourselves in favor of the principle of care of emergency medical and surgical nonservice-connected disabilities of veterans in their home communities by their home physician, and in their community hospital. (We recognize that disabilities of service origin, such as tuberculosis, nervous and mental diseases constitute a different problem.)

CUBAN DOCTORS CALL STRIKE FOR FEE RISE

Havana, Aug. 16.—Approximately 10,000 physicians, members of the National Medical Federation of Cuba, struck at noon today. Three hundred abandoned their positions and services in eight of Havana's most important private clinics, hospitals, and medical associations. Others stopped treatment of more than 3,000 patients confined in institutions, half at least of whom are seriously ill.

President Machado tonight decreed immediate government intervention in the strike today. Octavio Zubi-Zarotta, Secretary of the Interior, was ordered to take steps to assume control of all private Spanish regional associations and medical institutions.

Zubi-Zarotta ordered the Secretary of Sanitation, Carlos D. Cespedes, to appoint government physicians to replace strikers so that patients' lives will not be endangered.

The President sent an urgent message to the directors of the Medical Federation demanding that the physicians return to their posts immediately and promising government arbitration and settlement within seventy-two hours.

The strike was called in protest against the operation of a group of medical institutions which are furnishing medical and hospital services to thousands of Cubans at low rates.

The institutions' membership fees are only $2 monthly and cover complete treatments for all illnesses, confinements, operations, and burial if necessary. A membership without additional cost in social clubs for sports, balls, and free education of the members' children is also included.

The federation directors assert that the institutions have virtually ruined the medical class, depriving the physicians not connected with the institutions of a chance of making a living. They insist that members earning incomes of more than $100 monthly be immediately dropped.

The institutions' directors insist that no legal procedure exists to enforce the federation's demand, adding that the institutions' services should not be regulated by incomes or ability to pay higher fees to private physicians.

Inability to arrive at a satisfactory solution following six weeks of bitter controversy resulted in the strike.—Los Angeles *Times,* August 17, 1932.

Pulmonary Gas Absorption in Bronchial Obstruction.—Coryllos and Birnbaum have devised experimental methods which give evidence that, when a bronchus is completely obstructed, the entrapped alveolar air rapidly undergoes qualitative and quantitative changes as determined by successive gas analyses. Qualitatively, the percentages and partial pressures of the gases comprising the alveolar air tend to, but never quite, reach an equilibrium with the gases of venous blood. Quantitatively, the entrapped alveolar gases pass through the respiratory membrane into the blood circulating in the perialveolar capillaries until complete airlessness of the involved area is produced. The mechanism of production of atelectasis in the compressed lung (pneumothorax, pleural exudate, intrathoracic tumors, and so on) is exactly the same as in bronchial obstruction. Besides the gases of the air, diffusion of other gases was studied by introducing them into a lung previously rendered atelectatic. The different gases used in these experiments were: (1) active gases, oxygen and carbon dioxid; (2) neutral gases, hydrogen, nitrogen and helium, and (3) anesthetic gases or vapors, ether, ethyl chlorid; nitrous oxide and ethylene. A new experimental method was devised which allows direct vision of the pulmonary changes occurring during the experiment. Nitrogen in the respiratory air plays the part of a "mechanical buffer," retarding the absorption of more diffusible and more soluble gases. This experimental work has allowed the formation of a theory on the mechanism of atelectasis based on the physiology of exchange of gases in the lung.—*Am. Jour. Med. Sciences* and *J. A. M. A.,* Vol. 98, No. 22.

Infective Asthma.—Cooke believes that asthma of infective origin is subject to hereditary influence. This, of course, only proves that asthma, whether of the infective or the skin-sensitive type, is the offspring of hereditary influences. But the facts that 15 per cent of all asthmas are combined sensitization and infective types, that skin-sensitive allergies are frequent in the antecedents of infective asthma and that the opposite condition also obtains, all lend support to the view that the two types may be regarded as of the same nature. Eosinophilia may be regarded as an allergic phenomenon. Experimentally it is produced only under conditions that are regarded as favoring sensitization. Local eosinophilia of histogenous origin is believed to be shown. Eosinophilia is as frequent in asthma of infective origin as in that of the skin-sensitive type. Infective asthma may be regarded as an allergic reaction quite as properly as is the skin-sensitive type, although the immunologic reactions in the two forms are not identical.—*Am. Jour. Med. Sciences* and *J. A. M. A.,* Vol. 98, No. 22.

Operations on Superior Pole of Thyroid.—Roeder enumerates thus the significant complications that may occur during the removal of the superior pole of a goitrous thyroid: (1) injuries to the inferior and superior laryngeal branches of the vagus, producing (*a*) partial or complete loss of voice, (*b*) obstruction to inspiration, (*c*) aspiration of ingested fluids into the bronchi, (*d*) loss of sensation to the mucosa of the larynx, and (*e*) referred pain to the lower portion of the pinna through the "vagopinna reflex"; (2) referred pain to the mandibular teeth through the "thyromandibular reflex"; (3) paralysis of the soft palate; (4) referred somatic pain through any or all of the first four cervical spinal sensory nerves; (5) hemorrhage from the superior thyroid vessels, and (6) injury to or removal of parathyroids.—*Arch. of Surg.* and *J. A. M. A.,* Vol. 98, No. 22.

CANCER COMMISSION OF THE C. M. A.

The Cancer Commission was brought into being by the House of Delegates of the California Medical Association to aid in the furtherance of all efforts to combat cancer. The roster of officers and the central office of the Commission to which communications may be sent is printed in this issue of California and Western Medicine (see front cover directory). This column is conducted by the Secretaries of the Commission.

REPORT OF THE BREAST TUMORS COMMITTEE*

I

WHAT CALLS THE PATIENT'S ATTENTION TO THE BREAST

1. **A Painless Lump.**—In an overwhelming majority of cases the patient finds a tumor in her breast by "accident," the patient's hand encountering a lump while bathing or dressing. Women should be educated to keep watch of their breasts and not to wait for "accidental" discovery.

In *early* cancer the lump is painless, almost without exception.

2. **Bleeding Nipple.**—First determine if discharge is actually bloody (microscopic examination) or merely dark-colored (patient's word is not always reliable).

More difference of opinion developed over the significance and handling of cases of bleeding nipple in the absence of a lump demonstrable by palpation or transillumination than over any other breast condition, reflecting the disagreement apparent in general surgical literature. In view of this difference of opinion, the committee is not prepared to lay down at the present time any rule covering all cases of this condition. Fortunately the number of cases of cancer giving bleeding from the nipple as the first sign or symptom are very few.

3. **Non-Bloody Nipple Discharge.** — When a non-bloody discharge is present, serous or dark in character, a dilated lactiferous duct is thought of. The condition may well be viewed with suspicion and the breast kept under observation; but, in general, a non-bloody discharge from nipple is rarely diagnostic of malignancy.

The location of a tumor in any particular quadrant of the breast is generally conceded to possess very little significance in differential diagnosis as between benign and malignant. In prognosis, of course, cancers in the axillary quadrant are more likely to have early gland involvement.

WHAT CONSTITUTES PROPER EXAMINATION?

I. The complete and proper examination should include:

(*a*) A complete history, with special reference to the breast, including pregnancies, miscarriages, incomplete or abnormal lactations, infections, traumata.

(*b*) A general physical examination.

II. Then, with shoulders and entire chest exposed, a careful inspection should be made, noting:

(*a*) Asymmetry of the two sides.

(*b*) If the breasts are of equal size.

(*c*) Dimpling or pigmentation of the skin, often brought out by gently moving the breast across the chest wall.

(*d*) Visible local swelling.

(*e*) Retraction of nipple.

(*f*) Involvement of supraclavicular or axillary spaces, either actually palpable or suspicious fullness. One member suggests that rectal examination will occasionally find metastatic deposits.

III. *Palpation. Extreme gentleness is imperative in palpating* both the breast and also for glands in the axilla lest cancer cells be forced out into lymphatic channels. This should be done with the flat of the hand, lightly. A definite lump will demonstrate itself between the hand or finger and the chest wall. Forcible grasping of the gland increases the hazard of metastasis and confuses the examiner by doubling breast tissue into false lumps.

Three positions are recommended for the patient to assume in this examination:

(*a*) Recumbent or semi-recumbent, with arms extended above the head.

(*b*) Sitting upright, with and without arms extended above the head. Retraction of nipple and shortening of the suspensory ligaments of the breast are best brought out with the arms extended above the head.

(*c*) Bending forward in sitting position with flexion of trunk upon the thighs.

There may be present:

(*a*) Nodules—(1) single, (2) multiple, (3) bilateral, (4) fixed—carcinoma.

(*b*) Nodes in axillae or supraclavicular regions. While in general malignant nodes are hard and inflammatory nodes soft, the committee feels that these distinctions are not sufficiently constant to warrant dependence upon them in diagnosis, except in the case of large, hard or fixed, obviously malignant nodes.

IV. Transilluminate both breasts by Cutler's method:

Cystic tumors—transparent, unless containing blood.

Solid tumors—dense and dark.

Transillumination is of little value in distinguishing between benign and malignant tumors; of most value where blood is present, *i. e.,* in bleeding nipple from cyst with blood transillumination shows very dense shadow—more so than solid tumor. Large serous cysts, benign, may show evidence of light fluid contents on transillumination. In general, results of transillumination should be regarded as confirmatory and not diagnostic. At present the procedure can never replace exploration.

V. Your committee recommends that, in the presence of definite breast tumors of a suspicious type, the complete examination should include chest x-rays in order to rule out lung metastasis, even though chest symptoms may be absent; further x-rays to include spine and pelvis, if the so-called "rheumatic pains" are present.

If extension of the disease can be demonstrated beyond the axillary lymph nodes, *radical* surgery is then contraindicated.

Every single gross nodule present in the breast in a patient over the age of twenty-five years should be explored, unless the diagnosis of cancer is obvious.

Your committee believes that in an increasing number of early breast cancer lumps it is impossible to make a positive clinical diagnosis; and that we are sacrificing the patient's chances of cure if we wait for the positive clinical signs of malignancy; and, therefore, that the rule just expressed should be universally adopted and rigidly adhered to. For this reason your committee believes that the simple determination of the *presence or absence of a definite lump* constitutes an adequate examination and desires to emphasize again the danger of increasing metastases by a prolonged manipulation in examination.

Exploration.—Preliminary radiation was advised by two members in these cases in order to diminish the possible metastasis that might follow the trauma incurred by the necessary surgery in the event that exploration proved the presence of cancer. The committee as a whole is not yet prepared to insist upon this as a rule, but inasmuch as preoperative radiation appears to be more valuable than postoperative, and since radical operation must be done at the same time as biopsy, recommends radiation before biopsy when it is felt that the tumor to be explored is *probably* cancer.

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* Concerning work and reports of Cancer Commission of the California Medical Association, see August California and Western Medicine, pages 124 and 131.

VI. In making a biopsy, it was recommended that:

(*a*) The consent of the patient should be obtained for further surgery if it is found to be necessary.

(*b*) Complete preparation for such surgery should be made at this time.

(*c*) In either type the entire lump should be removed, unless obviously cancer at first approach.

(*d*) Unless gross diagnosis is obvious and definite, a frozen section is then to be made by the attending pathologist; and, if reported positive for malignancy, the complete surgery should immediately follow.

(*e*) In exploring and in the removal of a nodule or tumor, it was thought that the electric cautery knife or endothermy did not possess any advantage of safety over the cold blade, provided that chemical agents be used, such as phenol, alcohol pack, Harrington's solution, with closure of the incision. *Before proceeding with the radical surgery there should be a complete change of drapes, fresh gloves are worn, and new instruments uncovered.*

(Other opinion was that endothermy and the cautery do constitute a factor of safety in that there is less chance of implanting the stray cancer cell (two members); and that it was not necessary to treat the open wound with chemical cautery (one member).)

WHAT CONSTITUTES PROPER TREATMENT?

I. The lesions that require local removal are the encapsulated tumors, as:

(*a*) Encapsulated adenoma or adenofibroma.

(*b*) Single serous and papillomatous cysts.

(*c*) Cystadenoma (either encapsulated or localized).

(*d*) Tumor-like masses of chronic cystic mastitis.

II. The breast only should be removed in case of:

(*a*) Diffuse polycystic and fibrocystic mastitis. (Some difference of opinion was apparent, some of the members feeling that only diffuse polycystic mastitis of the proliferative type—cystadenoma, Schimmelbusch's disease—require total mastectomy.)

(*b*) Tuberculosis.

(*c*) Paget's disease of nipple or any chronic, intractable nipple eczema. A careful examination of the removed breast at the time of operation will determine the necessity of axillary dissection.

(*d*) Large ulcerating mass as the result of necrosis from malignancy, in order to relieve pain—palliative only.

III. The minimum adequate radical operation consists in:

(*a*) A wide skin excision—approximately the skin over the entire breast with a wide margin of outside skin around tumors near the border of the breast. It is possible to obtain exposure without running scar line across the axillary space.

(*b*) A still wider excision of deep fascia—sternum to latissimus dorsi; clavicle to and including upper segment of sheath of rectus muscle.

(*c*) Removal of both pectoralis major and minor, preserving if possible the cephalic vein and the portion of the pectoralis major in which it lies, as a prophylaxis against edema of the arm.

(*d*) Clean removal of gland bearing fat from axillary structures leaving bare (1) chest wall, (2) subscapularis, (3) axillary vein to margin of latissimus. One member suggests the advisability of removing the fat from the subclavian vein with removal of Halstead's gland.

(*e*) All these structures must be removed in one mass, beginning first with the complete axillary dissection and working toward the central diseased breast area.

(*f*) Closure in such manner as to cover axillary structures. If an adequate amount of skin has been removed, many cases will require skin graft.

The use of the cautery or diathermy knife does not offer any advantage of safety in regard to the recurrence of cancer, but in the hands of some men it is a desirable technique. The actual cautery is indicated in advanced cases where sloughing tissue should be destroyed and is solely for the comfort of the patient and without the expectation of checking the progress of the disease.

The committee feels that a classification of types of cancer should be included in this report, but that this should be delayed until a report is received from the Committee on Pathology.

(To be concluded)

Lactation and Breast Cancer.—Wainwright concludes from a study of American women with cancer of the breast and of a series of normal women as controls, that normal lactation tends rather to protect from breast cancer than to predispose to it. The incidence in single women, in childless married women and in mothers who had not nursed their children appeared consistently higher than in women who had lactated normally. This agrees with conclusions from a similar study in Great Britain.—Janet E. Lane-Claypon, British Ministry of Health (Public Health Department No. 32, 1926)—Wainwright, J. M., *American Journal of Cancer,* Vol. 15, 1931, p. 2610.

Prognosis of Early Rectal Cancer.—A series of 215 cases of operable tumors of the rectum has been very carefully graded. The results of treatment, with special regard to recurrence, have been followed up during periods up to five years. Cancers of the rectum can be divided into three classes, A, B and C, according to the extent of the spread of the tumor. A cases are those in which the growth is limited to the wall of the rectum; B cases are those in which there is extra-rectal spread but in which no metastases into the lymph glands are present; C cases are those in which metastases are present in the regional lymph nodes. Striking differences in the operative mortality rate and in the survival rate after operation are found in these three groups. There is reason to believe that in A cases the disease is completely eradicated by rectal excision; the excellent results of operative treatment confirm the opinion previously expressed that *lymphatic metastases do not occur until a rectal carcinoma has spread by direct continuity to the extra-rectal tissues.* In B cases, also, a good prognosis is justified even though the prognosis is slightly less favorable than in A cases. The results of surgical treatment in C cases are very disappointing.—Ninth Annual Report, British Empire Cancer Campaign, 1932.

The Spacing of Doses in Radiotherapy.—It is generally recognized that the effect upon tissues of a certain dose of radiation depends not only upon the dose but upon the way in which it is given: and the ways in which a single dose can be given are extremely numerous. It has been our object to find out whether a tumor growing in an animal is more influenced by a dose of radiation when it is given at one exposure or at several exposures, and if the latter then to find the optimum time intervals to choose for spacing the dose. This line of investigation has been going on for the best part of a year with two animal tumors growing at different rates, one the Jensen's rat sarcoma and the other a round celled sarcoma which we have had established in these laboratories (Middlesex Hospital) for some years. So far, as the observations go they show that tumors can often be made to disappear by sublethal doses when these doses are spaced so that the tumor only gets a fractional part every other day or at even bigger intervals of time; but we are not yet in a position to state what the optimum intervals are.—Ninth Annual Report, British Empire Cancer Campaign, 1932.

STATE MEDICAL ASSOCIATIONS

CALIFORNIA MEDICAL ASSOCIATION*

JOSEPH M. KING............President
GEORGE G. REINLE............President-Elect
EMMA W. POPE............Secretary-Treasurer

OFFICIAL NOTICES

Meeting of the Council.—The fall meeting of the Council of the California Medical Association will be held in Los Angeles, September 24, 1932, at the California Club, 538 South Flower Street.

* * *

Extension Lecture Service.—Each year in the September issue of California and Western Medicine is printed an invitation to members of the California Medical Association to submit subjects for the Extension Lecture program.

It must be understood that those who enroll for this gratuitous service many times receive calls at inopportune moments, but that the service in some way compensates is evidenced by the infrequency of the requests for release.

Interest in county society meetings is stimulated by having one paper on the program by an outside speaker. Some county societies regularly secure speakers from the Extension program.

Will any member who has a subject of medical interest to members and who is willing to go on call to the various county medical societies of the state, furnish before the 20th of September his name and the titles of not more than three addresses. Address, the California State Medical Association, 2004 Four Fifty Sutter Building, 450 Sutter Street, San Francisco.

COMPONENT COUNTY MEDICAL SOCIETIES

ORANGE COUNTY

On Thursday, August 18, a special meeting of the Orange County Medical Association was held in the chapel of the County Hospital. The society was honored by the presence of Dr. Joseph M. King, president of the California State Medical Association, who gave an address on *Medical Economics,* which was of great interest to every member present. Doctor King strongly urged a closer relationship between the county society and its respective local and state officials. He explained in detail some of the problems which confront county hospitals that care for "part pay" patients. Doctor King reminded us that almost 50 per cent of the hospital patients in the state are cared for in institutions financed by the taxpayer.

Dr. Fred Clarke, president of the Long Beach Academy of Medicine and also president of the Southern California Medical Society, spoke on *Factors Responsible for the Change in Public Sentiment Toward the Present Methods of Medical Care.* Doctor Clarke has made a thorough study of this question and much valuable information was gained from this talk.

Forty-five members were present at this meeting, and among the guests were some of Orange County's supervisors and political candidates then in the field for election.

There being no regular business transacted, after a unanimous vote of thanks and appreciation had been extended to Doctor King and Doctor Clarke, the meeting was adjourned.

Harry G. Huffman, *Secretary.*

VENTURA COUNTY

The August meeting of the Ventura County Medical Society was held on the 9th at the Clinic building, Ventura County Hospital, Dr. Sterling Clark presiding. Members present were: Doctors Sterling Clark, Illick, Felberbaum, Armitstead, Charles Smolt, Mosher, Foskett, King, Shore, and Strong.

Communications were read. It was decided to request a symposium on the gastro-intestinal tract by the Cancer Commission for the October meeting.

Doctor Foskett's professional card for the telephone directory was approved.

Discussion was had of the medical advertising plan sponsored by the Ventura *Free Press.*

The meeting closed after a discussion of the new fees for x-rays paid by insurance companies in industrial cases. It was felt that the new fees were unfair to men in the smaller communities, where no great volume of work is done.

Doctor Illick was appointed program chairman for the September meeting.

Artemas J. Strong, *Secretary.*

CHANGES IN MEMBERSHIP

New Members (16)

Alameda County—John Wadsworth Robertson, Jr.

Los Angeles County—Ralph Bonner Eusden, Lowell Reed Hill, Osmonde Woodfall Janes, Louis Aloysius Mangan, Carroll Alonzo McCoy, William M. Pearce, Saul Silas Robinson, Gerald True Sprague, Theodore Alfred Strang, John A. Wahlen, Ernest Paul Wheeler.

San Bernardino County—Albert Daniel Neubert.

San Diego County—Linues Emanuel Adams, Lewis H. Fairchild, George Lester Kilgore.

Transfers (2)

Frank E. Blaisdell, Jr., from Santa Barbara to Santa Cruz County.

Ralph E. Swarts from San Francisco to San Mateo County.

In Memoriam

Arthur, Edgar Allen. Died in Stockton, July 12, 1932, age 69 years. Graduate of University of California Medical School, San Francisco, 1901. Licensed in California, 1901. Doctor Arthur was a member of the San Joaquin County Medical Society, the California Medical Association, and the American Medical Association.

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Crandall, Henry Floyd. Died in Oceanside, July 16, 1932, age 58 years. Graduate of St. Louis College of Physicians and Surgeons, Missouri, 1908. Licensed in California, 1919. Doctor Crandall was a member of the San Diego County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

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* For a complete list of general officers, of standing committees, of section officers, and of executive officers of the component county societies, see index reference on the front cover, under Miscellany.

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Durand, Charles Joseph. Died in Sacramento, July 7, 1932, age 46 years. Graduate of Laval University Faculty of Medicine, Quebec, 1911. Licensed in California, 1917. Doctor Durand was a member of the Placer County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

✠

McKillop, John Edwin. Died in Santa Monica, July 25, 1932, age 48 years. Graduate of University of California Medical School, San Francisco, 1911. Licensed in California, 1912. Doctor McKillop was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

OBITUARIES

Agnes Walker

1873-1932

Agnes Walker, M. D., was born in Scotland and came to California as a child. She was educated in San Rafael by Miss Murison and entered Cooper Medical College in 1891. She graduated in 1893, interned at the Children's Hospital, and at once showed her preference for laboratory work.

Doctor Walker worked at the quarantine station on Angel Island and came to know Doctor Kinyoun very well. When he resigned to be director of Mulford's laboratories in Pennsylvania, Doctor Walker was asked to come on to work there. She returned to San Francisco after the fire and was city bacteriologist and director of the laboratories of the Board of Health of San Francisco through her working years. She was loaned to Los Angeles to establish a plague laboratory for the detection of diseased rats in its outbreak of plague in 1925.

After her return from a leave of absence, she resigned as director of the city laboratory but retained her work as city bacteriologist until her final resignation in 1930.

In a long life of service to scientific diagnosis and public health, Dr. Agnes Walker presented to life a gallant front, dignified and supported by the highest standards of severe rectitude. She was keen and capable in her work and a loyal friend.

To those who cared for her through her last sickness, her gentleness and courage will always be comforting memories.

Adelaide Brown, M. D.

Charles D. Lockwood

1868-1932

Lieutenant Colonel Charles D. Lockwood died on June 11, 1932, at his home, 295 Markham Place, Pasadena, after a brief illness.

He was born in Effingham, Illinois, January 22, 1868. He received his A. B. degree in 1893, his M. D. degree in 1896 from Northwestern University, and he interned in the Chicago Lying-In and Cook County hospitals the following year.

Doctor Lockwood married Clara M. Sanford of Platteville, Wisconsin, on September 5, 1898.

He was assistant instructor in surgery in Northwestern University Medical School from 1897 to 1899, and alternate member of the California State Board of Medical Examiners from 1901 to 1902, and professor of surgery, College of Dentistry, University of Southern California in 1902. In 1906 he took postgraduate work in the University of Vienna Doctor Lockwood held the positions of consulting surgeon to the Los Angeles County Hospital and attending surgeon to the Pasadena Hospital from 1912 to the time of his death.

During the world war, Doctor Lockwood organized the Red Cross Ambulance Company No. 1, 1916-1917. He was major of the Marine Corps, U. S. A., in France from December, 1917, to January, 1919, and was for five months at the western front. He was a Fellow of the American College of Surgeons and of the American Medical Association and Western Surgical Association, a member of the Pacific Coast Surgical and of the American Society of Thoracic Surgical Associations.

The passing of Doctor Lockwood is a great loss to Pasadena. His activities were manifold. He was interested in civic affairs, always a leader for the best in government; but his chief interest was leadership in medicine and surgery in Pasadena.

Medically, he was affiliated with the Olive View Sanatorium, the La Vina Sanatorium and the Pasadena Dispensary. In all his affiliations Doctor Lockwood stood for the best in medicine and surgery.

For over thirty years he was active on the surgical staff of the Pasadena Hospital, chairman of the building committee, always a protagonist and a teacher in the Pasadena Training School for Nurses and for many years he had maintained the Lockwood Scholarship for Nurses. So great was his interest in the training of nurses that he had just completed a textbook on Surgical Technique which is a worthy monument to his memory.

J. M. Wilson, M. D.,
Pasadena.

Charles Joseph Durand
1886-1932

Dr. Charles Joseph Durand was born in Coaticook, Province of Quebec, Canada, December 10, 1886, and died in Sacramento July 6, 1932.

Doctor Durand graduated from the medical department of Laval University, Quebec, with the class of 1911. In 1913 he came to California and in 1914 to Colfax. Since 1917 he had been associated with me as an assistant—for the past fourteen years as chief assistant. During these years of close association his kindly cheery disposition, his devout Christian character, his loyalty to his chief, to his profession and to his patients, and his high personal and professional standards of life endeared him to the members of the staff, to his confrères and to his patients as well as to the people of the community in which he lived.

Doctor Durand entertained a high sense of responsibility respecting civic duties. As an adopted citizen of the United States, when the country entered the Great War he, in spite of physical handicaps, the result of previous tuberculous disease, volunteered for service. The privilege of serving in his country's armed forces was, however, denied him. At all times and in many ways, however, he served his community, having been city health officer and a member of the local school board for many years, as well as an active member of other local civic bodies.

Doctor Durand served his local medical society as president, and at the time of his death had been its associate secretary-treasurer since 1923. He had also served as secretary and later as president of the California Northern District Medical Society. He was a member of the California Academy of Medicine, a Fellow of the American Medical Association, and a Fellow of the American College of Physicians.

Doctor Durand is survived by his widow, Mrs. Anna E. F. Durand, and by one son, Robert Louis Durand.

Robert A. Peers.

THE WOMAN'S AUXILIARY TO THE CALIFORNIA MEDICAL ASSOCIATION*

Component County Auxiliaries

Sacramento County.—Following her annual custom. Mrs. Robert A. Peers was hostess to the members of the Woman's Auxiliary to the Sacramento Society for Medical Improvement on May 17 at her home in Colfax. A basket luncheon was served at noon in the garden of the home. Mrs. Frederick Scatena presided at the regular business meeting. Doctor Peers welcomed the ladies of the auxiliary, and Mrs. Frederick Faulkner gave a most interesting talk on "Persons and Personages" she had met.

* * *

Complimenting Mrs. Andrew Mitchell Henderson, president-elect of the Woman's Auxiliary to the California Medical Association, the Sacramento auxiliary entertained at a bridge luncheon at the Del Paso Country Club in June. Mrs. Frederick Scatena, president of the local auxiliary, presided as toastmistress.

Mrs. Henderson discussed the aims of the medical auxiliary, and stated that welfare projects and social relations are interpreted more effectively through the power of organized women.

Mrs. James Rolph, Jr., Mrs. Thomas Huntington, Mrs. Joseph M. Toner, Mrs. Frank Hinman of San Francisco, Mrs. Herbert True, Mrs. June Harris, Mrs. F. E. Coulter, and members of the state board were special guests.

Malignant Disease of Lungs.—Kerley states that there are two equally common roentgen manifestations of primary lung cancer. In one a lung or a lobe is involved in a pneumonic process, and in the other the disease appears to be limited to the hilus. Certain roentgen features are common to the two forms, but as a rule they maintain distinctive appearances to the end. The appearances of the lobar or pneumonic form vary with the number of lobes affected. Contraction of the lobe, as evidenced by displacement of the fissure, was first noted by roentgenologists and led to a revision of the pre-roentgenologic idea that neoplasms of the lung increased the thoracic contents. Primary lung cancer by obliteration of bronchi and destruction of lung tissue always diminishes the thoracic contents. On closer study of a roentgenogram of a lobar carcinoma, it will be observed that the opacity is densest near the root and diminishes in intensity toward the periphery. If a very hard picture is taken, one can often distinguish two opacities: the first an extremely dense one attached to and spreading from the hilus, the second a less dense one covering the affected lobe in all directions. These two shadows represent growth near the hilus and collapse in the periphery of the lobe. If the vascular markings of the lung are invisible in the light peripheral opacity and visible in the dense opacity near the root, one can diagnose carcinoma with certainty, for there is no other lobar pneumonic process that produces this dual effect. In all nonmalignant pneumonic processes the lung markings are either completely invisible or faintly visible in every part of the affected area. Diaphragmatic paralysis is an invaluable sign. A less well known disturbance of innervation associated with carcinoma of the lung is compression or invasion of the vagus. Pleural effusion, as a complication of the pneumonic or lobar form of carcinoma, is the bugbear of the radiologist, for it masks nearly everything. If the effusion is small it has no significance, but if, as so often happens in malignant conditions, the effusion is large, one is confronted with great difficulties. The visualization of enlarged bronchial or mediastinal lymph nodes is one of the most valuable diagnostic points and is, moreover, of considerable clinical significance, since it contraindicates surgical intervention. An equally frequent roentgen manifestation of bronchial carcinoma is the so-called hilar form, which is seen as a dense opacity round the root of the lung without collapse or consolidation in the peripheral parts of the affected lobe or lobes. This type of the disease is easier to diagnose than the pneumonic type, because there are few other lung diseases causing similar appearances. A sudden transition from the hilar type to the pneumonic type is not uncommon, and probably if one saw the disease early enough one would find it first as a small hilar opacity later causing lobar or lung collapse. Obstruction of the superior vena cava takes place earlier and more often with a growth of the hilar type than with one of the pneumonic type. It is obviously impossible to describe all the varying appearances that are to be seen in roentgenograms of pulmonary carcinoma. But there is one roentgen feature common to all malignant growths of the lung: there is never normal lung tissue between the shadow of the neoplasm and the shadow of the mediastinum.—*British Medical Journal.*

Persistence of Immunity to Cysticercus Fasciolaris After Removal of Worms.—Miller and Massie report that the acquired immunity conferred on the albino rat by an infection with Cysticerus fasciolaris was not lost in twenty-four individuals from which the worms were removed. An interval of from thirty-three to sixty days was allowed between removal of the cysticerci and infection. The onchospheres fed at that time resulted in an average of seventy-seven larvae, living and dead, in the control rats, whereas development was completely inhibited in the rats from which the worms of the initial infection had been removed.—*Jour. of Prev. Med.*, and *J. A. M. A.*, Vol. 98, No. 22.

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* As county auxiliaries to the Woman's Auxiliary to the California Medical Association are formed, the names of their officers should be forwarded to Mrs. Clifford A. Wright, chairman of Publicity and Publications Committee, 454 South Irving Boulevard, Los Angeles. Brief reports of county auxiliary meetings will be welcomed by Mrs. Wright and must be sent to her before publication takes place in this column. For lists of state and county officers, see advertising page 6. The Council of the California Medical Association has instructed the editors to allocate one page in every issue for Woman's Auxiliary notes.

MISCELLANY

Under this department are ordinarily grouped: News; Medical Economics; Correspondence; Twenty-five Years Ago column; Department of Public Health; California Board of Medical Examiners; and other columns as occasion may warrant. Items for the News column must be furnished by the fifteenth of the preceding month. For Book Reviews, see index on the front cover, under Miscellany.

NEWS

Coming Meetings—

American Medical Association, Milwaukee, Wisconsin, 1933, Olin West, M. D., 535 North Dearborn Street, Chicago, secretary. Date of meeting to be announced later.

California Medical Association, Del Monte, April 24-27, 1933, Emma W. Pope, M. D., 450 Sutter Street, San Francisco, secretary.

Nevada State Medical Association, Reno, September 23-24, 1932, Dr. Horace J. Brown, 120 North Virginia Street, Reno, secretary.

Oregon State Medical Society, Klamath Falls, September 22-24, 1932, Albert W. Holman, M. D., 410 Taylor Street, Portland, secretary.

Utah State Medical Association, Ogden, September 15-17, 1932, Leland R. Cowan, M. D., 305 Medical Arts Building, Salt Lake City, secretary.

Washington State Medical Association, Tacoma, September 12-14, 1932, Curtis H. Thomson, M. D., 1305 Fourth Avenue, Seattle, secretary.

Northern California Public Health Association Meets in Oakland.—The summer meeting of the Northern California Public Health Association was held in Oakland June 25. Dr. A. H. Hieronymus, city health officer of Oakland, acted as host. The idea of round table discussions at the meetings of the association which was inaugurated at the January meeting proved so great a success that it was repeated in Oakland. Four round table discussions were held—that on dental hygiene was led by Dr. Willard C. Fleming of San Francisco; that on communicable disease control by Dr. Allen F. Gillihan, county health officer of San Luis Obispo; that on health publicity by Mr. W. Ford Higby, executive secretary of the California Tuberculosis Association; and the discussion on health insurance and the public health was led by Dr. Ralph Reynolds of San Francisco. Following the round table discussions, the leader of each group presented a summary of each discussion before the meeting as a whole. Mr. W. Ford Higby reported on the meeting of the Western Branch of the American Public Health Association which was held in Denver early in June. Dr. Thomas Storey of Stanford University, president of the Northern California Public Health Association, presided. Reports were made by Dr. Walter Brown of Stanford University, secretary, and Miss Mary E. Davis of the Bureau of Child Hygiene of the California Department of Public Health, treasurer.

American Legion Medical Post.—The fiscal year of most Legion posts ends on September 30. Veteran medical officers, and those who served in the World War and have become physicians since, are urgently invited to join Medical Post. If for any reason a veteran medical officer believes it to be to his advantage to remain a member of his local post, he is encouraged to do so. However, if professional association with fellow physicians and social amenities with their families appeal to a medical veteran of the World War, he will find such advantages by joining Medical Post.

Veteran medical and dental officers who served in the World War as well as veteran army and navy nurses are eligible to membership.

Applications with a check for $7 should be sent to Roy L. Sturges, M. D., Adjutant, 1106 South Broadway, Los Angeles, or to George A. Akers, M. D., 200 South Chapell, Alhambra, or to John F. Martin, M. D., Commander, 570 North Rossmore, Hollywood.

Bone and Radiological Conference.—The Bone and Radiological Conference will be held on September 19-24, 1932, at the Johns Hopkins University, under the auspices of the Surgical Pathological Laboratory of the Johns Hopkins University. The program is as follows:

Monday, September 19, for oral surgeons, and those interested in jaw, teeth, and oral cavity.

Tuesday, September 20, conference on special subjects—jaw, giant-cell tumor, and Ewing's sarcoma.

Wednesday, Thursday, and Friday, September 21, 22 and 23, main bone demonstration. Any doctor may attend all demonstrations.

Tentative Schedule for Dr. W. McKim Marriott,† University of California Medical School:

Thursday, September 1—8:30 to 9:30 a. m., Pediatric Rounds, H Ward.

**Friday, September 2*—9:00 to 10:30 a. m., General Pediatric Rounds, Toland Hall.

**Saturday, September 3*—9:30 to 11:00 a. m., Amphitheater Clinics, Medicine and Pediatrics, Toland Hall. Subject: Diabetes Mellitus.

Tuesday, September 6—8:30 to 9:30 a. m., Pediatric Rounds, H. Ward.

**Wednesday, September 7*—12 noon to 1:00 p. m., Third-Year Pediatric Lecture, San Francisco Hospital. Infant Feeding (continued).

Thursday, September 8—8:30 to 9:30 a. m., Pediatric Rounds, H. Ward.

**Wednesday, September 14*—11:00 a. m. to 12 noon, Fourth-Year Clinical Pathological Conference, Cole Hall. "Maternal and Fetal Diabetes and Hypoglycemia."

**Friday, September 16*—9:00 to 10:30 a. m., General Pediatric Rounds, Toland Hall.
8:15 p. m., Toland Hall: Northern California Pediatric Society.

**Saturday, September 17*—8:00 to 9:00 a. m., Fourth-Year Pediatrics. Demonstration of Cases.

Monday, September 19—8:00 p. m., Alameda County Medical Society, Oakland.

**Tuesday, September 20*—8:00 to 9:00 a. m., Second-Year Pediatric Lecture, Cole Hall: Physiology Applied to Pediatrics.

**Wednesday, September 21*—11:00 to 12 noon, Fourth-Year Clinical Pathological Conference, Cole Hall: "Acrodynia."

**Friday, September 23*—9:00 to 10:30 a. m., General Pediatric Rounds, Toland Hall.

**Saturday, September 24*—8:00 to 9:00 a. m., Fourth-Year Pediatrics, Toland Hall. Demonstration of Cases.

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* Open to profession at large.

† Titles of lectures listed subject to Doctor Marriott's approval on arrival.

Pacific Coast Oto-Ophthalmological Society.—The Pacific Coast Oto-Ophthalmological Society held its twentieth annual meeting in Seattle June 30, July 1-2, 1932. This is a sectional society, embracing the territory west of the Rockies, British Columbia, Alaska, and Hawaii. Considering the times, the meeting was well attended, especially from near-by points. San Francisco was selected as the meeting place for 1933. The following officers were elected: President, Hans Barkan, M. D., San Francisco; first vice-president, Bertram C. Davies, M. D., Los Angeles; second vice-president, Lee Bouvy, M. D., LaGrande, Oregon; secretary-treasurer, J. Frank Friesen, M. D., Los Angeles.

National Board of Medical Examiners—California Rankings.—It is noted in the May number of *The Diplomate* published by the National Board of Medical Examiners that students of the College of Medical Evangelists took honors as follows in the February examinations: In Part I, Donald R. Gibbs made fourth place. In Part II, Robert B. Haining tied for first place, Eugene J. Joergenson tied for second place, John C. Redell took sixth place, and Elisabeth Larsson tied for tenth place. In Part I, Edward N. Lindquist tied for the highest mark in Bacteriology. In Part II, Elisabeth Larsson tied for highest mark in Medicine, and Joseph E. Cairncross tied for the highest score in Surgery. These examinations are written by students from all over the United States. The students securing the ten highest places constitute the "honor" list.

American Public Health Association.—The sixty-first annual meeting of the American Public Health Association will be held in Washington, D. C., October 24-27, with headquarters at the Willard Hotel.

The American Public Health Association occupies a unique place in the public health world. It is the corporate body of all the public health workers of the country. It is their organization, their clearing house, their source of information, their spokesman and advocate of sound working principles and standards in public health service, their avenue of personal contacts so essential to individual growth and advancement, and their inspiration to keep going. The association represents the public health workers of the country and through them the trend, the quality and the progress of the health of the nation.

The Association of School Physicians will hold its meetings on Friday, Saturday, and Sunday prior to October 24. This association will also meet in joint session with the Child Hygiene and Public Health Nursing sections for one or more programs. The State Sanitary Engineers will meet on Friday, Saturday and Monday for their own conferences and then join with the Public Health Engineering Section of the association.

The scientific character of the program is so well known that it does not need special comment here. One session will be devoted to the important subject of mental hygiene. The Committee on Training and Personnel will sponsor a luncheon at which the training of engineers, nurses, and health officers will be discussed. Diphtheria will be discussed at another luncheon. There will be symposiums on air hygiene; incidence, identification and significance of bacterial carriers; standard methods; bacterial dissociation; vital statistics; registration problems; and the participation of the medical profession in public health work. Altogether the scientific program promises to be unusually good.

Public health workers are urged to make their hotel reservations early so that they will be assured of adequate accommodations.

HOSPITAL COSTS STAGGER NATION*

Bill for War Veterans to Reach $55,329,525

Treatment for Disabled in Conflict Not Begrudged

By Col. Charles R. Stark, Jr.

[Copyright, 1932, by the North American Newspaper Alliance, Inc.]

Washington, Aug. 21. (Exclusive)—Free hospitalization, domiciliary care and medical treatment of veterans of the Spanish and World wars will cost the United States Government $55,329,525 this fiscal year. That is, it will cost that amount if Congress does not eliminate some of the items that have been proposed.

Nobody begrudges a dollar of this amount that will be spent for the care of men disabled as a result of war wounds or illness. There are many of the men, some of them pitiful remnants of strapping youths who went into the trenches prepared to give their all, doomed to live out the rest of their lives in hospitals. They were brought back from Europe on hospital ships, helpless on stretchers or in wheel chairs, and they have remained tied to beds or the same chairs ever since.

Demand Good Care

These men gave without question and the people of the United States demand in no uncertain terms that they shall be well cared for as long as they live.

But their care does not take $55,329,525 nor the major portion of that amount. On June 7, 1924, the law was changed so that any veteran of any war can turn to the government for hospital care and treatment for any injury or any disease even though the condition requiring hospital care did not arise from or have even a presumed connection with war service.

As a result of this change in the law 76 per cent of the total admissions to government hospitals in the fiscal year 1931 were for the admission of nonservice-connected cases, and the percentage is steadily rising each year. It is estimated that $39,000,000 of the amount asked for this year is for the treatment of just such cases. Some of the men are Spanish War veterans, but the vast majority are World War ex-soldiers.

Travel Pay

Take a look at what the government provides out of this $39,000,000.

By far the greater number of veterans seeking hospitalization live in places away from the locations of the hospitals. The travel expense of the veteran asking treatment is paid to and from the place where medical examinations are conducted to determine their degree of disability and need of treatment.

A further travel expense is allowed to and from the hospitals if it is determined that they are in need of hospital care. They are cared for at the hospital, operated upon if necessary, clothed and fed while there, examined by specialists who are paid a fee if they are not on the regular pay roll, and buried if they do not recover.

In addition, other examinations are allowed if necessary and out-patient treatment given after they can be discharged if they are not fully recovered. Furthermore, in the discretion of the administrator, they are allowed a per diem of $2.65 above travel and other expenses while traveling and under observation.

No Question of Pay

There is not a word in the Act anywhere that limits these facilities to veterans unable to pay their own way at a private hospital. There is not a word in the Act that provides these facilities only after municipal, county or state facilities are determined to be so crowded the veteran cannot be treated there.

Originally the bill passed when the peak of treatment of war cases was over and there were many vacant beds in government hospitals. The bill permitted treatment "where existing facilities permit" and it was left to the discretion of the administrator to determine this fact.

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* Editor's Note.—For further discussion of hospital costs, see pages 199 and 204 of this issue of California and Western Medicine.

Later it was changed so that any veteran could demand as his right such treatment. This meant more hospitals and more beds until General Hines, in charge of government pension affairs, estimates that eventually it will demand the adding of 100,000 additional beds at an estimated cost of $140,000,000 a year.

League Opposed

The National Economy League, composed almost entirely of ex-service men who fought in France, declares that it cannot see the slightest justification for the hospitalization of veterans whose disabilities were incurred in civil life and have nothing to do with war service.

It says it calls for a vast expense entailing a heavy burden of taxation on the people and seeks not only the elimination of $39,000,000 from this item of the proposed bill, but also the repeal of the Act that permits such free treatment.

And how this Act is abused! Walter Reed Hospital in Washington, D. C., is the largest of the army general hospitals and has a list of specialists in different lines. Its records will disclose case after case of men, amply able to pay their own way in a private institution, who have been operated on for serious diseases at government expense.

Incidentally, in this connection, members of Congress take advantage of the same legalized abuse and use that institution themselves.—Los Angeles *Times.*

TWENTY-FIVE YEARS AGO*

EXCERPTS FROM OUR STATE MEDICAL JOURNAL

Vol. V, No. 9, September, 1907

From some editorial notes:

Aid Our Friends.—It is of advantage to readers of a publication to place before them advertisements of good articles and new things as they come on the market. There is no reason why a medical journal should not extend the same privilege to its readers and let them see what manufacturers have to say in their own behalf about their goods, so long as the goods are honest and the statements are kept within the range of probability. For these reasons, and for others, the journal has always opposed the argument that there should be no advertising pages in a scientific or medical journal. And, furthermore, the addition of advertising pages and the receipt of the revenue derived from them, permit of extending the size of the journal, improving the quality of its general make-up, etc. But the manufacturer is in the business to sell goods; he puts his advertisement in your journal with the hope that you will read it, be interested in what he says of his goods, and at least try them. He pays money to your state society for that purpose and so shows his faith in the journal of the society and in the interest of its members. We think he is amply justified, but we ask your further and continued interest and support. Do not hesitate to send for information, catalogs, samples, etc., pertaining to anything in which you may be interested. . . .

Frightful Condition.—The condition of things in the county health institutions of the greatest city on the Pacific Coast, as indicated in the report which the journal gladly publishes elsewhere in this issue, can only be regarded as frightful. The City and County Hospital would be a disgrace to medieval times; for years it has been such a menace to the lives of those who live in it that very many graduates have refused to accept its internships, and more than one case of death from tuberculosis has been practically traced to the thoroughly infected and infested "hospital." Just think of the menace to those who are sick or injured and must of necessity seek aid in such a filthy institution! At the present time this, the City and County Hospital of San Francisco, is the worst focus of bubonic plague in the city! . . .

Illegal Practitioners.—We publish this month the first report from the committee of the Board of Examiners having in charge that portion of the new law which requires the board to prosecute violations of the statute. It must be understood that it is one thing to require certain things to be done and quite a different thing to do them—especially when no machinery is provided. We understand that there is practically no money available for this part of the work of the board, and without money but little can be done. Detectives must be employed to get evidence and attorneys must be hired to conduct the prosecutions; all of which necessitates the expenditure of money. . . .

Pure Food Commission.—Again the journal calls your attention to the work and the suggestions of the Pure Food Commission of the state society. . . . In Pasadena and Los Angeles a decided improvement in the milk supply and the condition of some dairies is reported, and in Fresno, where the local board has been active for several years, conditions are said to be very much above the average. . . .

From an article on "Theophyllin as a Diuretic" by Albion Walter Hewlett, M. D., San Francisco.

Theophyllin is beyond doubt the most remarkable diuretic that we possess today. Though the drug occurs naturally in tea in small amounts, its wide medicinal use has only been made possible by its synthetic preparation. This synthetic product is placed on the market under the trade name of theocin.

From an article on "The Physiology of Glycosuria" by Martin H. Fischer, M. D., Oakland.

The presence of dextrose in the urine is so greatly the predominating sign of a diabetes mellitus that a brief study of the physiology of glycosuria may well be regarded as a prerequisite to an intelligent understanding of the disease itself. . . .

CALIFORNIA STATE DEPARTMENT OF PUBLIC HEALTH

By Giles S. Porter, M. D.
Director

Ban Placed on Clams as Well as Mussels.—Laboratory examinations made under the direction of Dr. Karl F. Meyer of the Hooper Foundation for Medical Research, acting in coöperation with the California Department of Public Health, show that all clams (with the exception of mudclams) as well as mussels from certain sections along the coast of California are now poisonous. A quarantine has therefore been established by which the sale or offering for sale of all clams, with the exception of mudclams, is prohibited in the coastal area from Monterey County to the Klamath River in Del Norte County, excluding the bay of San Francisco. This quarantine will be in force until September 30, 1932. A similar quarantine was placed upon mussels May 28 to continue until September 30, also. Mussels and clams in the San Francisco Bay waters do not show signs of toxicity, as do these shellfish in ocean waters. For this reason, San Francisco Bay shellfish are not included in this quarantine order.

This does not affect, however, a permanent quarantine on clams in San Francisco Bay which was established by the California Board of Public Health May 28 because of sewage pollution of San Francisco Bay waters. The taking, sale, or offering for sale of all clams, including soft-shell or mudclams, from San Francisco Bay and tributary sloughs in the counties of Alameda, San Francisco, San Mateo, Santa Clara, Contra Costa, Solano, Sonoma, and Marin counties is prohibited, with the exception of the following areas in Marin County: for one mile each side of California Point; the south shore of Tiburon Peninsula on Richardson Bay for one mile north of Belvedere; between McNear Point and Gallinas Creek northerly from McNear Point.

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* This column strives to mirror the work and aims of colleagues who bore the brunt of state society work some twenty-five years ago. It is hoped that such presentation will be of interest to both old and recent members.

There is always danger in eating shellfish which may be taken from sewage-polluted waters, and the permanent quarantine on clams was established because of the danger of contracting typhoid fever through the consumption of clams taken from such places. This condition is quite different from the toxic condition that now prevails in mussels and clams. . . .

A Spade and an Ax.—Individuals who enter the government forest reserves during the summer season for the purpose of camping are required to take with them a spade and an ax. These useful tools are primarily intended for use in fire prevention, but the spade has an important use from the standpoint of sanitation. A spade, in fact, is an absolute necessity in the maintenance of camp sanitation in those places where no sanitary equipment is provided. It should be used for burying all remnants of food, empty tin cans, old bottles, body waste, and other undesirable material of every description. Accumulations of garbage attract flies and other insects. Garbage should be buried quickly and it should be buried deep, in order that it may not be disinterred by predatory animals. A spade is useful, too, for extinguishing a camp fire. The coals of a camp fire, if buried under six or eight inches of dirt, have little chance to flare up and set fire to the forest. Many of the best and most attractive camping places in the West have been destroyed by campers who were careless in extinguishing their camp fires. In order to have attractive camping places for future use, it is essential that they be not destroyed by fire.

Orange County Health Unit Complete.—With the taking over of the health work of Newport Beach, the Orange County Health Department now covers all territory in Orange County, both urban and rural. Dr. K. H. Sutherland is health officer of Orange County and under his administration the county will now be able to provide full-time public health service to all residents of the county.

The centralization of public health activities in a single unit is highly advantageous to all residents of the county, and the people of Newport Beach are to be congratulated upon this forward action which they have taken.

Carelessness in Making Birth Certificates.—A birth certificate is one of the most important of all legal papers. It is doubtful that any other document possesses greater inherent value to its owner. Its significance is great because it provides its owner with definite proof of his status as a citizen of this republic. It may have great monetary value and its ownership enables the possessor to enjoy many privileges which, without it, might be denied him.

Strange to state, many birth certificates are grossly incorrect and every day in the Bureau of Vital Statistics many affidavits are received which must be applied to correct birth certificates already filed. It is lamentable that many physicians and hospitals exhibit gross carelessness in the preparation of this important document. Sometimes the errors involved are not discovered until many years after the filing of the certificate, at a time when it may be extremely difficult to secure the necessary affidavits to establish the fact of error. It is astounding that on many birth certificates the sex is recorded inaccurately. This type of error has caused an enormous amount of confusion to many individuals who have found that, officially, they are of the opposite sex. . . .

BOARD OF MEDICAL EXAMINERS OF THE STATE OF CALIFORNIA

By Charles B. Pinkham, M. D.
Secretary-Treasurer

News Items

Investigation report relates that on August 12 Hjalmar Groneman, licensed chiropractor, was found guilty before San Francisco Municipal Judge Fritz for violation of Sections 7 and 15 of the Chiropractic Act and was sentenced to thirty days in the county jail, execution of judgment being suspended. "The specific offense charged against Groneman in violation of Section 7 (of the Chiropractic Act) was prescribing. . . . The violation of Section 15 (of the Chiropractic Act) was in using the prefix 'Dr.' on his stationery, without following it immediately with the suffix 'D. C.' or the word 'Chiropractor.'" Section 7 of the Chiropractic Act states that a license to practice chiropractic "shall not authorize the use of any drug or medicine now or hereafter included in materia medica." In the case of Millsap vs. Alderson, 63 C. A. D. 518-532, materia medica has been defined as "substances employed as remedial agents." That licensed chiropractors have no right to use medicinal agents for remedial purposes is again set forth in People vs. Machado, 279 Pacific 228.

"Dr. G. E. Grosse, chiropractor, was yesterday afternoon held for trial in Superior Court on a charge of performing an illegal operation on Mrs. Jasper Crowe, 34 Benita Avenue, Santa Cruz. . . . " (Press dispatch dated Santa Cruz, August 9, printed in the Oakland *Tribune*, August 9, 1932.)

"Jules Ross, brought back from Palo Alto, California, pleaded guity today to attempted forgery in the third degree. The plea was accepted to cover five indictments of forgery in connection with charges that Ross in 1928 had sold forged high school certificates to students, enabling them to enter college in the city of New York. He was remanded to Tombs Prison for sentence August 24 . . ." (Associated Press dispatch, dated New York, August 10, printed in the San Francisco *Call-Bulletin*, August 10, 1932). Another evidence that watchful care against the bogus diploma merchant is still necessary.

A new subjective symptom was disclosed in the following press dispatch dated Los Angeles, August 9, printed in the San Francisco *Examiner* of August 9, 1932: "When a witness commits perjury, a red flame shoots out of his mouth, but only those trained in the psychic can see the manifestation. This was disclosed today as one of the 'secrets' of the late Dr. Edgar L. Colburn, over which two factions of the Colburn Biological Institute are battling in Superior Court. During cross-examination today of a member of the cult, attorneys argued over which way he should face. Both wished to see if any flames leaped from his mouth."

"Dr. J. C. Arnott of Culver City pleaded guilty before Federal Judge Louderback yesterday to giving a false certificate to R. Bush, a war veteran, stating that he had examined Bush prior to 1925 and found him to be tuberculous. The doctor was placed on probation for a year" (San Francisco *Examiner*, July 23, 1932).

The records show that on July 19, 1932, Raymond DeSilva was found guilty in the Justice Court of San Jose on a charge of violation of the Medical Practice Act and was fined $150, with the alternative of one day in jail for each $5 unpaid. He was remanded to the custody of the sheriff, pending payment of fine. (Previous entry, July, 1932.)

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RENAL TUBERCULOSIS *

WHY CLINICALLY ESTABLISHED RENAL TUBERCULOSIS NEVER COMPLETELY HEALS

By ROBERT DAY, M. D.
Los Angeles

DISCUSSION *by Edward L. Keyes, M. D., New York City; Arthur L. Chute, M. D., Boston; Alexander Randall, M. D., Philadelphia.*

THIS paper is intended to present an hypothesis based on accepted facts. The word "never," appearing in the title, is not intended to be taken literally but to signify extreme rarity.

SOME OF THE FACTS INVOLVED

Many physicians still resist the significance of the well-known clinical fact that a tuberculous kidney, definitely discharging tubercle bacilli, represents a progressively destructive process, and that there are few, if any, authentic records of complete healing in such a case. They seem to reason that because apparently complete healing does occur not infrequently in other organs, renal tuberculosis should not constitute an exception. If we can make them understand and appreciate the underlying reason for this difference, perhaps there will be less temporizing in cases of unilateral renal tuberculosis at a time when nephrectomy would probably result in a cure.

In deducing the hypothesis which is submitted in this paper, other questions unavoidably creep in, particularly concerning the origin and early developmental phenomena of upper urinary tract tuberculosis. Again, there arises the following pertinent query: Being of hematogenous origin, why is the disease bilateral in only 35 per cent of cases? Are bacilli in sufficient numbers carried by chance to only one kidney? Or do the organisms reach both kidneys, but gain a foothold in one only?

WHEN RENAL TUBERCULOSIS IS CLINICALLY ESTABLISHED

When pus and tubercle bacilli of *renal* origin are found in the urine, renal tuberculosis may be said to be "clinically established."

FACTORS WHICH DELAY HEALING BY CICATRIZATION

In several organs or tissues of the body other than the kidney, recovery or complete healing by cicatrization is a frequent occurrence. Why the difference in the case of the kidney? The answer seems obvious, one reason perhaps why writers have neglected to comment on this phase of the subject.

Renal tuberculosis is always secondary to a tuberculous focus elsewhere in the body, and the infecting organisms almost invariably reach the kidney by way of the renal artery. The lesion originates in the parenchyma. The first gross evidence is usually observed in a pyramid near its base. So far as may be inferred from animal experimentation, microscopic tubercles in the cortex may antedate this gross lesion in a pyramid by a considerable period of time. Until there is an ulcerative lesion, that is to say until the tuberculous process has extended to a calyx or to the collecting tubules, tubercle bacilli are not present in the urine from that kidney, nor does the urine contain pus cells at this stage unless the pus cells arise from a preëxisting or concomitant nontuberculous infection. Finding of acid-fast bacilli without pus cells is not evidence of urinary tuberculosis. In the prepyuric stage there are rarely any pronounced subjective symptoms or objective findings referable to the urinary tract. There may be a slight albuminuria or an afternoon rise of temperature, seldom over 99.2 degrees, unless due to a tuberculous lesion elsewhere or other concomitant cause—rarely anything pronounced until pus cells appear in the urine. Even a slight soreness over the kidney is uncommon in the prepyuric stage. Tenderness and pain over or in a tuberculous kidney means that the tuberculous process is not recent. Indeed, renal tuberculosis has usually existed from one to three years before it is definitely diagnosed. Excluding other etiological factors, frank hematuria of renal origin means that the disease has already invaded or, by reason of a ruptured vessel, has suddenly broken into the renal pelvis.

When a tuberculous process once reaches a calyx, a new clinical picture, as well as characteristic pathologic changes, soon begin, due to a descending infection involving the ureter and bladder. Tubercle bacilli are now being excreted, whereas in the prepyuric stage these bacilli were not coming down. The new clinical manifestations, essentially urinary, are frequency and dysuria of greater or less degree, and pyuria, and these are the symptoms for which the patient usually first consults his physician. The condition is all too frequently diagnosed at this time as just "cystitis," without any adequate attempt to identify the infecting organism or determine the primary focus in the urinary tract.

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* Read before the Section on Urology of the California Medical Association at the sixty-first annual session, Pasadena, May 2–5, 1932.

The ureter almost inevitably becomes the site of characteristic pathologic changes, viz., tubercles, infiltration, ulceration, thickening, fibrosis, and rigidity, which lead to constriction of its lumen at one or more sites. Besides the stenosis or stricture, the peristaltic function is interfered with. In some degree, probably, deficient elasticity must be present in even the mildest form of ureteral tuberculosis. As a result of a constricted ureter and defective peristalsis, a marked degree of back-pressure is produced in the kidney. It is scarcely rational to expect the recovery of a kidney handicapped by such hindrance to drainage of its never-ceasing secretion. Ureteral dilatation is of little, if any, lasting therapeutic value, in contradistinction to ureteral stricture produced by a nontuberculous process.

The point is often made that with rest, fixation, heliotherapy, and other measures, tuberculosis heals through the process of sclerosis, calcification, etc. In this respect renal tuberculosis differs from that in practically every other organ where tuberculosis is common, because there can be no rest for either kidney or ureter. This, plus ureteral stenosis, seems to be the answer to the tuberculous kidney's unfailing and ultimate destruction, not inconsistent with the fact that under accepted therapy healing does take place in other organs.

By careful section of tuberculous kidneys there is abundant evidence of healing, healed areas being found side by side with tubercles and all the other pathologic changes incident to tuberculosis. But in spite of these localized attempts at healing, new areas become involved and the tuberculous process in the kidney is always progressive, once the tubercle bacilli reach a calyx. On the other hand, there is some supporting evidence (Chute and others) and much reason to believe that small tuberculous lesions in the renal cortex do sometimes heal completely; but never when the lesion has reached a pyramid or calyx, or collecting tubules. Even the observations of Wildbolz, Medlar, and Thomas and Kinsella, each with his somewhat unorthodox individual theory on certain aspects of the disease, dovetail with this hypothesis when carefully analyzed. Animal experimentation is apt sometimes to lead to erroneous conclusions for the reason that in the case of man, in addition to other possible factors, evolution and civilization have conspired to add another unfavorable influence, namely, the upright position, often producing a sagging kidney and ureteral kink. Sagging and the resultant interference with drainage, predispose to pyogenic infection in general, and to renal tuberculosis in particular, if the blood stream should happen to contain tubercle bacilli. As has been particularly emphasized by Frand Kidd, probably most of us intermittently carry a few organisms in our blood stream, and a kidney handicapped by slight hindrance to drainage and an increase in intrapelvic pressure is apt, by selectivity, to become infected, while its fellow on the opposite side escapes or recovers rapidly. A striking example is unilateral typhoid pyelonephritis. When the blood stream is swarming with *B. typhosus,* why should one kidney escape? In one instance of unilateral typhoid pyelonephritis, the writer was enabled to indicate by means of ureteropyelography the plausible explanation and probable reason why one kidney became infected, and the other escaped: a handicap to drainage on the affected side by reason of a moderate obstruction in its ureter, and hence its especial vulnerability.

By the same token it is logical to suppose that in a large percentage of cases of unilateral renal tuberculosis the bacilli reach both kidneys, but that in the vulnerable kidney the process is progressive while in the other the infection is overcome before it extends to the medulla. We can hardly escape the conclusion that when tubercle bacilli are present in the blood stream in sufficient numbers to infect a kidney, probably they are carried to the opposite kidney as well as to other organs; but that there exists a special reason or factor that enables infecting organisms to gain a foothold in that particular kidney.

SUMMARY

1. Where a tuberculous lesion has advanced to the renal pelvis or collecting tubules, renal tuberculosis never completely heals because of the handicap of hindered drainage and back-pressure, due to tuberculous changes in the ureteral wall; that is to say that, aside from other possible reasons, a tuberculous kidney excreting tubercle bacilli cannot recover because an incurably strictured ureter interferes with normal drainage and peristalsis.

2. When complete healing does occur, the tuberculous process is limited to the cortex, *i. e.,* has never extended to a pyramid or collecting tubules.

3. Until the tuberculous process has extended to a calyx or the collecting tubules, pus and tubercle bacilli of renal origin will not be found in the urine and therefore, up to this time, renal tuberculosis cannot be said to have been "clinically established."

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DISCUSSION

Edward L. Keyes, M. D. (Department of Clinical Surgery-Urology, Cornell University Medical College, New York City).—Some of the observed facts concerning the healing of renal tuberculosis are:

1. At tuberculosis sanatoria routine repeated examination of urine from patients with active pulmonary tuberculosis will occasionally reveal tubercle bacilli and, more rarely, tubercle bacilli and pus.

2. When such patients are followed to autopsy the bacilluria cases as a rule show no tuberculous renal

lesion on routine pathological examination. The pyuric cases show tuberculous lesions somewhere along the urinary tract.

3. The urologist occasionally encounters cases of arrested renal tuberculosis in the form of:

(*a*) Complete silent caseation of a kidney whereby its function is totally lost, though if the process has not extended to the ureter and if there is no mixed infection the patient may die without recognizable symptoms or detriment due to this lesion;

(*b*) Partial or temporary healing of active clinical tuberculosis of the kidney; I have reported two cases, one with an entire remission in symptoms for six years, the other a remission for three years, both submitting to nephrectomy for recurrence of active lesions.

(*c*) Unexplained cases fully diagnosed as active surgical tuberculosis whose symptoms cease over a long period of years and who refuse further examination.

(*d*) Pus and tubercle bacilli are obtained by ureter catheter from each kidney. One kidney is removed. The patient is not technically reëxamined. He remains clinically well for a period of more than ten years.

4. All of these occurrences are extremely rare. I have followed over two hundred cases of renal tuberculosis. I have seen three "pathological nephrectomies," one of which had begun to show activity, which required surgical nephrectomy. I have not noted any other clinical remissions as prolonged as those I have reported. I have observed one case of unexplained prolonged remission of tuberculosis in one kidney and one in the remaining kidney after nephrectomy for tuberculosis.

5. Nephrectomy for tuberculosis is an operation with extraordinarily low mortality. This has varied in my experience and that of others from two to five per cent in large series of cases. Except for prolonged healing of the wound which complicates about five per cent of the cases, the convalescence from operation may be expected to be entirely peaceful; much more so, for example, than convalescence from nephrotomy for stone. Refusal of nephrectomy for the cure of unilateral tuberculosis means that the patient is willing to face the prospect of a miserable death from bladder tuberculosis with not more than a two per cent possibility of escape.

6. For twenty years urologists have demanded of the medical men who encourage nonsurgical treatment of renal tuberculosis a justification in the form of a postmortem pathological specimen of surgical renal tuberculosis that showed evidence of complete healing without complete destruction of the kidney. Such a specimen has not been forthcoming.

7. It is for these reasons that the urologist refuses to accept medical treatment in substitution for nephrectomy.

8. Nevertheless it is sometimes profitable to spend a number of weeks in establishing a precise diagnosis of renal tuberculosis and it is not justifiable to perform nephrectomy for bacilluria without pyuria or deformity of the renal pelvis.

9. An interesting theory covering the origin and development of renal tuberculosis is that of Medlar, who made serial sections of the kidneys of patients dying from pulmonary tuberculosis. He found cortical evidences of multiple tuberculous inoculation of both kidneys as mentioned by Doctor Day. These lesions showed either—

(*a*) Regression and healing without caseation (and in some instances this was associated during life with bacilluria); or

(*b*) Caseation, or suppurating because of mixed infection. These lesions extended to and broke into the pelvis, discharging pus and tubercle bacilli.

Class (a) may be termed medical renal tuberculosis. It is characterized by being bilateral and showing rare tubercle bacilli, but no pus in the urine. Class (b) is surgical tuberculosis characterized by pus in the urine at least at times. (One exceptionally sees extensive renal tuberculosis without pus or tubercle bacilli in the urine during periods of inactivity.)

10. Medical tuberculosis is characterized by a normal pyelogram; surgical tuberculosis by an abnormal pyelogram.

11. Surgical tuberculosis at onset is habitually unilateral because:

12. Medical tuberculosis may heal in both kidneys—usually heals in one.

13. Surgical unilateral tuberculosis calls for nephrectomy to save the patient from a miserable death by bladder tuberculosis.

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Arthur L. Chute, M. D. (Department of Urology, Tufts College Medical School, Boston, Mass.)—Doctor Day's paper has been of especial interest to me since it brings up some of the points that I considered in a paper I read before the American Urological Association in New York in 1920. I believe, as does Doctor Day, that the tuberculous infection of a kidney must always be secondary to some other tuberculous lesion of the body, and that the only way the infection can reach the kidney is through the blood stream. Furthermore, we both believe that it is practically impossible for all the tubercle bacilli that are thrown into the blood stream, from the primary focus, to be carried to one kidney, that though both kidneys probably receive a more or less equal number of bacilli, but one is infected in about 65 per cent of the cases, due to the fact that there must be some condition of lowered resistance in one kidney that does not exist in the other. This may be an anatomical variation or some more or less intangible thing that produces a lowered resistance in one organ. I agree with this, but I also think that kidneys have a considerable power to combat a beginning tuberculous infection, especially one that takes place in the cortex, and cited in my paper two cases of patients with vague discomfort in one loin, in each of which a radiograph unfortunately showed a small round shadow which moved with the kidney; in one of these I curetted the small calcified area and stirred up what was evidently a healing tuberculosis, so that a nephrectomy had to be done shortly after and the man was ill for about a year with various tuberculous manifestations; the other patient was similarly treated by another man and led to a fatal dissemination of tuberculosis in a few weeks. I cited these cases as ones in which a beginning tuberculous process was being stamped out until nature's healing process was interfered with. I believe this is what happens more or less often in a beginning renal tuberculosis and we know nothing about the infection.

Doctor Day rightly says that after a tuberculous renal infection has reached the stage where pus and tubercle bacilli are found in the urine, the process is rarely cured in the way that we see cure in other renal suppurations: that is, cicatrization of the lesion with a secreting kidney. He attributes this progression of the process to the influence of back-pressure, due to the thickened ureter, or to a tuberculous stricture of the ureter. When present this obstruction may be a factor, but in a certain number of cases I have removed a badly infected tuberculous kidney where a ureter catheter passed up the ureter without obstruction and when at least the upper part of the ureter was so thin and flexible that I hesitated to cut it. When, and if present. I do not doubt that a thickened and strictured ureter may add to the destructive process. On the other hand, it has been in the instance of ureters that were thickened to the point of being occluded that I have seen so-called autonephrectomy take place; in one instance of this sort the patient, from the history, had gone five to six years without symptoms with a shut off right ureter. As it became painful after that time I did a nephrectomy, finding a completely shut off kidney. She died eleven years later, supposedly of Addison's disease of the other side. No autopsy was obtained.

I believe the "unfailing and ultimate" destruction of the tuberculous kidney is due to the fact that we can only recognize renal tuberculosis when pus and tubercle bacilli are in the urine and when, therefore, it is really relatively advanced: that the beginning cases are the ones to which I have referred. I do not agree with the first conclusion of the writer's summary that a strictured condition of the ureter is the chief reason for the inexorable progress of a renal tuberculosis once it has advanced to the point where it is recognizable. Besides the above this condition of thickened ureter is not always present in a progressive case. With the writer's second point I agree perfectly, but I should put it in a little different way, namely, that tuberculous infections of the cortical part of a kidney are presumably more common than we suppose and many get well of themselves without being recognized. I quite agree with the third heading of his summary, and hope the time will soon come when we shall have symptoms to guide us to the recognition of the incipient stage of renal tuberculosis. In my belief, though I cannot prove it, many of these patients recover without treatment, and if we could only recognize the condition and give them proper hygienic treatment I think we would greatly diminish the really advanced cases which I believe are the only ones we recognize surgically, and which must, as a rule, be treated by nephrectomy. Doctor Day's paper brings up certain hypotheses that need more observation and study than we have given them.

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Alexander Randall, M. D. (Department of Urology, University of Pennsylvania School of Medicine, Philadelphia, Pa.)—Doctor Day has put upon a logical and clinical basis ideas and facts that experimenters have long tried to impress upon clinicians. In 1917 Noel Hallé (Presse Médicale) presented the first acceptable classification of renal tuberculosis on a biological basis. His pathological classification was almost too simple (as compared to those in current textbooks) for its immediate acceptance. His work, however, has since been repeated and amply substantiated by subsequent students of the problem. Hallé allowed but two types of chronic renal tuberculosis (all agreeing as regards the acute miliary disease). The first is chronic closed parenchymatous renal tuberculosis, and the second, chronic open pyelitic renal tuberculosis. Note, if you will, the careful incorporation of the adjectives "closed" and "open." It is the latter variety (the chronic open pyelitic renal tuberculosis) that Doctor Day identifies as being "clinically established" and he is right: others call it "surgical" renal tuberculosis, while all recognize it as a progressive, destructive, and incurable lesion. Surgery is its only hope and, fortunately, it is predominately unilateral in its early stages. The first variety (chronic closed parenchymatous renal tuberculosis) holds out interest when Hallé states that 33 per cent of these cases heal spontaneously, and says we fail to recognize in the so-called renal infarcts the scars of healed parenchymatous tuberculosis. Doctor Day has shown you how, clinically, in this type the evidences in the urine are scarcely recognizable and perhaps we are right in calling it, for contradistinction, "medical" renal tuberculosis, for until our diagnostic methods advance, its clinical recognition is presumptive only and its treatment expectant and medical. If the profession grasps these hard but simple facts, founded upon competent research and clinical investigation and study, the delay in operating upon an inevitably progressive lesion will be decreased, with a prevention of complications and spread of disease, while the ultimate relief and cure will be proportionately increased.

Doctor Day (Closing).—I am especially privileged in that three such renowned authorities as Doctors Chute, Keyes, and Randall should discuss my small contribution concerning one phase of renal tuberculosis.

Some observations of Doctor Chute's (President's Address, American Urological Association, *Journal of Urology*, May, 1921) were the starting point of this hypothesis, which after all is intended as a simple clinical clarification of some aspects of renal tuberculosis in conformity with Hallé's conception of its pathology.

The reader should clearly recognize the full import of one sentence especially, as stated in my paper, viz.: "When pus and tubercle bacilli of *renal origin* are found in the urine, renal tuberculosis may be said to be 'clinically established.'" The proof that the pus and tubercle bacilli *are* of renal origin is often a highly technical urologic procedure and its comprehensive discussion is out of place here. Suffice it to say that tubercle bacilli, having their source in the genital adnexa, may be present in the urine with absolutely no lesion in the kidney. Even tuberculosis of the lower ureter has been observed in a few instances with no involvement of the kidney whatever, perhaps carried upward from the genital adnexa through the lymphatics.

Doctor Chute states that he disagrees with the postulate that a strictured ureter is the chief reason for the inexorable progress of renal tuberculosis. I shall have to modify the title of my hypothesis slightly to meet his sound objection. He believes that by the time the condition is clinically diagnosed the process is so extensive that recovery is quite impossible. What, subconsciously, I meant to convey, and should have stated in my title is, "Why clinically established renal tuberculosis *cannot* recover." For if it were otherwise possible for any case of renal tuberculosis to heal completely, the tuberculous ureter would constantly threaten any remaining chance for the kidney to recover, even if nature had successfully negotiated all other hurdles. Israel, eminent German urologist and urological pathologist, among numerous other observers, endorses Caspar's statement that "In renal tuberculosis of long standing the ureters invariably become diseased."

In order to make my paper lucid and avoid confusion, I purposely avoided discussing the exceptions. But the exceptions prove the rule. Doctor Keyes brings them up in the mention of remissions and autonephrectomy. In his two cases where long remissions were noted, nephrectomy, however, was necessary in the end, because the kidney had never healel completely. His autonephrectomy cases with clinical cure comprised one per cent of the total, perhaps higher than the average. Crenshaw, in a review of 1,817 cases observed at the Mayo Clinic, reports only a few cases of total calcification and autonephrectomy which were not nephrectomized and over an average period of thirty months were classed as "practically well" or "improved." These cases comprise only four-tenths per cent of the total number. Neither remissions nor autonephrectomies constitute cures, that is to say, complete healing. In autonephrectomy cases the incidence of metastases through the blood stream, such as acute miliary tuberculosis, tuberculous meningitis, etc., is itself proof of the fallacy of the doctrine of healed lesions in such instances, as stressed by Wildbolz.

Tubercle bacilluria with pus, of which Doctor Keyes speaks, has been reported in sanitoria cases as he says. The overwhelming consensus of opinion is that where the bacilli are of renal origin there is an ulcerative tuberculous lesion in the kidney which was overlooked at autopsy. Medlar is very emphatic on this point. Medlar's careful serial sectioning, which for persistency, thoroughness, and conscientiousness is unexcelled, would have probably demonstrated tuberculosis in such kidneys, and in those which Wildbolz classifies as "tuberculous nephritis." In series of over 1,000 observed cases, 660 of which he nephrectomized, Wildbolz was able to report, however, only four cases which he himself classed as tuberculous nephritis that had gone over a five-year period—less than one-quarter per cent. His criteria for diagnosis are sparse tubercle bacilli demonstrated by guinea-pig inoculation but undiscoverable in stained smears from the urine. A further proviso is that the urine is free of pus cells. The slight incidence as well as the doubtful findings in such instances make them practically negligible, and certainly no right-minded urologist would consider such meager positive findings sufficient warrant for a nephrectomy. Histologically he finds only round-celled and leukocytic infiltration with fibrosis, but no tubercles. He admits it is a tissue reaction to tubercle bacilli, and is therefore a tuberculous process. Perhaps such patients possess an unusually high degree of immunity which accounts for the benignity of the condition.

In my interpretation of "never," I should have said "rare" instead of "exceedingly rare." The exceptions occur in less than one per cent of cases.

In conclusion, I wish to thank the three distinguished urologists who have taken time off to prepare considered discussions.

BACTERIOPHAGE METHOD OF TREATMENT OF INFECTED WOUNDS*

By Fred H. Albee, M. D.
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THE infected wound is undoubtedly one of the most difficult and most common problems in the history of medicine. The search for the ideal wound treatment is centuries old, ranging all the way from the ashes and natural balsams of primitive man, the incinerated toads and boiling oil of the Middle Ages, to the familiar Bipp treatments and Carrel-Dakin irrigations, employed so extensively in the late war, and the present-day use of maggots. It seems scarcely credible, in our modern stage of scientific advancement, that a method of wound treatment which may revolutionize all our previous concepts could be devised, yet I believe the bacteriophage to be just such a method.

FACTORS IN SUCCESS OF RECONSTRUCTION SURGERY

One of the greatest handicaps of the reconstruction surgeon is the recrudescence of latent infection in such cases. In fact, it can be safely said that the success of reconstruction surgery depends, in many instances, on the method of treatment of the original wound. One of the most frequent forms of bone infection which the surgeon of today may encounter is osteomyelitis. Nearly everyone is familiar with the treatment of this condition proposed by Dr. H. Winnett Orr in 1923. Violating the traditions of free drainage, he packed the saucerized wound with vaselin and vaselin gauze and enclosed it in a plaster cast which was left undisturbed for weeks. Obviously the process was sound, for soon after operation the patient's temperature dropped to normal, and upon removal of the cast the wound was found to be covered with healthy red granulation tissue. However, Orr's explanation (rest, immobilization, and avoidance of reinfection) did not seem to me to account for the marked success of the treatment. After close observation of several cases, I became convinced that some unusual phenomenon was taking place. It seemed to me that practically the same conditions were created under this cast as occurred naturally in the bacterial culture tubes of D'Herelle, the French bacteriologist at Yale, who, in 1921, discovered an ultramicroscopical parasite which appeared spontaneously in a culture of dysentery bacilli and which he called the "bacteriophage." He further demonstrated by laboratory experiment that there were several varieties or "races" of 'phage, each with a preference as to the type of bacteria it would destroy. Was it not quite possible that a native bacteriophage had multiplied and become active under the long-continued dressing of vaselin and vaselin gauze?

By careful laboratory search and tests,† it has been established that a specific 'phage appears spontaneously in about 94 per cent of cases of acute and chronic osteomyelitis. In three of the remaining six per cent in which the 'phage does not appear spontaneously, the laboratory has been able to supply us with a 'phage specific for the organism in question. But in the other three per cent, it has, so far, been unable to do so. This is especially true of the *Streptococcus hemolyticus,* and in these cases we have adopted a policy of watchful waiting. In several instances the desired 'phage has later appeared in the wound spontaneously and healing has occurred. It is hoped that with the perfection of laboratory methods and increased knowledge of the 'phage it may be possible to isolate races of 'phage specific for each bacterium in all cases.

'PHAGE THERAPY IN OSTEOMYELITIS

In cases of osteomyelitis, both acute and chronic, I now make use of the following method of treatment. I do not use iodin or alcohol lest they interfere either with the development of the spontaneous 'phage or with the specific laboratory-bred 'phage after its introduction. In place of the vaselin and vaselin gauze dressing, I am using paraffin with a dash of yellow vaselin, or sufficient vaselin to produce a semi-solid wound tampon. This varies from 90 per cent paraffin—10 per cent vaselin to 75 per cent paraffin—25 per cent vaselin.

The treatment of a group of cases comprising the various complications of osteomyelitis such as compound infected fractures with osteomyelitis, suppurative joints with osteomyelitis, etc., entails a multitude of considerations. In most of these cases we have deep wounds extending into the bone, with varying degrees of infection. The wound dressing, or tampon, should have a degree of solidity sufficient to restrict the tendency of the orifice at the dermis to close earlier than the depths of the wound. Furthermore, this tampon should be such that it can be inserted in practically a fluid state, in order to have uninterrupted access to every recess of the wound; it should then become semi-solid, thus tending to conserve its original contour, avoid adherence to the bone, and, bit by bit, extrude automatically as granulations fill up the depths of the wound and as the contractions of cicatrization demand.

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* A guest speaker paper read before the general meeting of the California Medical Association at the sixty-first annual session at Pasadena, May 2–5, 1932.

† For help in which I am indebted to Dr. Ward MacNeal and Miss Marjorie Patterson of the New York Post-Graduate Hospital.

If the consistency of the tampon can be thus altered by changing the relative amounts of the ingredients comprising it, early extrusion can be avoided in wounds of great depth and, conversely, can be favored in shallow wounds where earlier closure is desirable. With these requirements in mind, I have in my later cases been using different mixtures of paraffin and yellow vaselin, depending on the nature of the wound. In deep wounds yellow vaselin and paraffin may be used in a strength of one to ten; in suppurative wounds, where early closure is desired, the mixture is one part of vaselin to four parts of paraffin. The mixture is always put into the wound in a melted state, at about 110 degrees Fahrenheit, accomplished by immersing the jar containing the mixture in a water bath for some time before it is used. It is then inserted into the wound by means of a large syringe. I have been more satisfied with this dressing than with the vaselin-vaselin gauze for several reasons: (*a*) It is impossible to control the consistency of the vaselin-vaselin gauze dressing satisfactorily; (*b*) the vaselin gauze is quite apt to become adherent to bone at the bottom of the wound and so resist extrusion of the tampon and delay healing; (*c*) the wound granulations are likely to strangulate through the meshes of the gauze. None of these complications ever happens with the vaselin and paraffin dressing, which, because of its slippery surface, always extrudes satisfactorily, acting in a manner apparently somewhat similar to the Bipp tampon. Furthermore, the bacteriophage is just as apt to occur spontaneously as with the vaselin-vaselin gauze, namely, in about 94 per cent of the cases.

ADVANTAGES OF THE DRESSING

I have been unable to find any shortcomings of this dressing as compared with either the Bipp or the vaselin-vaselin gauze of Orr. Bipp, however, is contraindicated because of the possible unfavorable chemical action of the iodoform upon the bacteriophage. A summary of the advantages of this dressing follows:

1. It is simple in its application, requiring a minimum amount of hospitalization and necessitating a minimum amount of labor on the part of the surgeon and his staff.
2. It does not interfere with the immobilization of the part as, for example, in the case of a compound infected fracture or suppurating joint, nor does it favor edema of the granulations or the soft structures because of inequality of pressure at, or in the immediate neighborhood of, the wound, since there is no window in the cast. This is quite contrary to the Carrel-Dakin or maggot method of treatment, both of which must, of necessity, have a window in the cast. I believe that a uniform pressure over the wound and neighboring tissues, such as this new method affords, will avoid exuberant granulations and edema, an important consideration in the healing of a wound. This is particularly emphasized in the resistance to healing of varicose ulcers.
3. The paraffin-vaselin tampon automatically yields to the encroachment of granulation, healing, and closure of the wound, thus gradually extruding and keeping up a physiological pressure upon the surface of the wound at all times. This is more effective than frequent dressings by the surgeon and, in addition, avoids the possibility of reinfecting the wound by foreign bacteria.
4. This dressing is favorable to the appearance of the native bacteriophage and to the periodic introduction of the laboratory-bred 'phage by means of a catheter or rubber tube inserted through it into the depths of the wound. This tube is put in place at the time of operation or dressing and permanently incorporated in the plaster.

A detailed report of cases treated by this method will be published.

OTHER INDICATIONS FOR 'PHAGE THERAPY

In addition to its application to infected bone wounds, bacteriophage has proved a most efficacious specific agent in combating such lesions as furuncles, boils, carbuncles, and phlegmons. It may be applied in two ways: (1) thoroughly rubbed over the surface of the wound and the lesion then covered by sterile pads soaked in bacteriophage; or if the lesion is of extensive size or depth it may be dressed with the paraffin and vaselin tampon with catheter incorporated for periodic introduction of bacteriophage; (2) it may be injected subcutaneously by a hypodermic needle about the periphery of the lesions. In bacteremia, particularly *Staphylococcus aureus,* a bactriophage culture, prepared with asparagin as a medium and injected into the blood stream has, in the hands of Doctor MacNeal,[‡] reduced the mortality to less than 50 per cent, even when there have been two positive blood cultures. Not only is the bacteriophage a successful therapeutic agent but it has the added advantage of helping to establish a possible immunity on the part of the patient.

The excellence of the results should make this new method of wound treatment unquestionably preferred by all those who have experienced its advantages over former methods. I believe that this active living agent, bacteriophage, will eventually be one of the surgeon's greatest weapons against his old enemy, infection. To this end, I hope to stimulate the interest of the surgical world in a phase of bacteriology which will have a profound influence on the future treatment of surgical infections.

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[‡] New York Post-Graduate Hospital.

CANCER OF THE RECTUM*

By DUDLEY SMITH, M. D.
San Francisco

DISCUSSION *by Stanley H. Mentzer, M. D., San Francisco; John W. Cline, M. D., San Francisco; Clarence G. Toland, M. D., Los Angeles.*

THE classical studies of W. Ernest Miles of London upon the modes of extension of cancer of the rectum, and especially upon the zones of lymphatic spread, have demonstrated to the medical profession the futility of the older methods of operation. In closing his first Lettsomian lecture before the Medical Society of London, February 19, 1932, he said:

> "It will be seen that the ischiorectal fat, the levatores ani muscles, the pelvic peritoneum, and the pelvic mesocolon are the tissues which are chiefly concerned in the spread of cancer of the rectum. Pathology teaches us that they may be the seat of metastatic deposits even when the growth in the rectum is in a clinically early stage, and that unless these highly dangerous tissues are completely removed in every case in which an operation for the removal of the cancerous rectum is undertaken, postoperative recurrences will be a rule to which there will be few exceptions."

The medical profession, and indeed the laity, owe a deep debt of gratitude to Mr. Miles for the outstanding work he has done in this field, and anyone who talks on cancer of the rectum must necessarily lean heavily upon his research. He has proved that it is necessary to do a radical block dissection, which includes all of the three zones of spread, the downward, the upward, and the lateral, if recurrence is to be avoided in any large percentage of the cases operated upon.

DIAGNOSIS

Of late years these lesions have been discovered, on the whole, earlier than in the past because the laity and the medical profession have been given a large amount of information upon this subject by many writers, outstanding among whom is Daniel F. Jones of Boston, but there is still much to be done before the medical profession as a whole can point with pride to the early recognition of cancer of the rectum in cases coming under its care.

That the physician may be on his guard let us consider what are the early symptoms of cancer of the large bowel. Any change in bowel habit or sensation should cause the physician to suspect trouble. The rectum is a silent area and a growth usually gives no symptoms for the first six months, but even during this time there may be slight irritation or change in the character or frequency of the bowel movements. During this early period there may be a little discomfort in the rectum or a little more frequent urge to defecation. When the lesion is at the rectosigmoid junction, rapid increase in constipation is a not infrequent symptom because the lumen of the gut is small and the growth constricts early. Distention of gas and colicky pains are also frequently complained of. If the abdominal wall be thin, peristaltic waves will probably be seen. When blood appears in the bowel movement it should be an imperative command to the physician to immediately find its source.

If hemorrhoids which are bleeding or might bleed have been found, the physician cannot be absolved from blame if he does not investigate higher up and make sure that there is no other lesion from which the blood is coming. It is all too common an error to take it for granted that blood comes from hemorrhoids and prescribe some suppositories without examination. Students should be taught and the medical profession should learn to know that blood from the rectum should be considered as coming from a malignant growth until such is ruled out.

Cancer of the rectum can be discovered by digital examination alone in a very large percentage of cases, and this procedure should certainly never be neglected. The physician should heed the dictum of a well-known professor of medicine who said to his students: "Put your finger in the rectum, or you may later find you have put your foot in it."

Diagnosis of cancer of the rectum and rectosigmoid is easily made in 100 per cent of the cases, but this diagnosis cannot be made by laboratory examination of the stools and rarely by barium enema and x-ray unless the condition is far advanced and constriction present. The proper routine of examination is: first, digital; second, anoscopic; third, proctoscopic; and then if the lesion is above the range of the proctoscope a barium enema and x-ray examination will almost always reveal it. It is a mistake to order a barium enema first and then proctoscopic examination. This should be reversed. Lesions above seven inches are usually revealed by the x-ray, but no lesion below seven inches from the anus is likely to be discovered unless it is far advanced and stricture is present.

TREATMENT

Permanent colostomy is essential to success in the operative treatment of cancer of the rectum, no matter what operation is decided upon for the individual case. Unfortunately the laity and a large part of the medical profession have an exaggerated fear of colostomy. I have heard doctors in medical meetings say that they would rather die than have a colostomy. When such a statement has been made I have always felt that the person who made it knew very little about a properly constructed colostomy and much less about its proper care. As a matter of fact a properly constructed, well placed and properly cared for colostomy causes the patient comparatively little inconvenience and this statement is based upon the opinions of a large number of patients who have such colostomies. When I explain to a patient that a permanent colostomy will be necessary I am in the habit of referring him to one or two patients who have had the operation and are living happy and contented lives. I tell the patient that these others have come over the trail before him and can tell him precisely how little trouble and inconvenience he will encounter on the way. I rarely have a patient refuse the operation after talking with those who have had it.

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* From the Department of Surgery, University of California. Read before Surgical Section, California Medical Association, at the sixty-first annual session, Pasadena, May 2-5, 1932.

Three types of operation are now in general use, viz.:

1. Posterior resection, preceded by colostomy.
2. Abdominoperineal resection in one stage.
3. Abdominoperineal resection in two or three stages.

Posterior resection done ten days or two weeks after colostomy, is considered the operation of choice by many surgeons because it has shown a lower primary mortality than the abdominoperineal resection. The great disadvantage of the operation is that recurrence will follow in a much larger percentage of cases than in the abdominoperineal procedure. In my opinion, it should be restricted to patients who are thought to be unfitted to withstand the more radical procedure by reason of advanced age or poor condition from other causes.

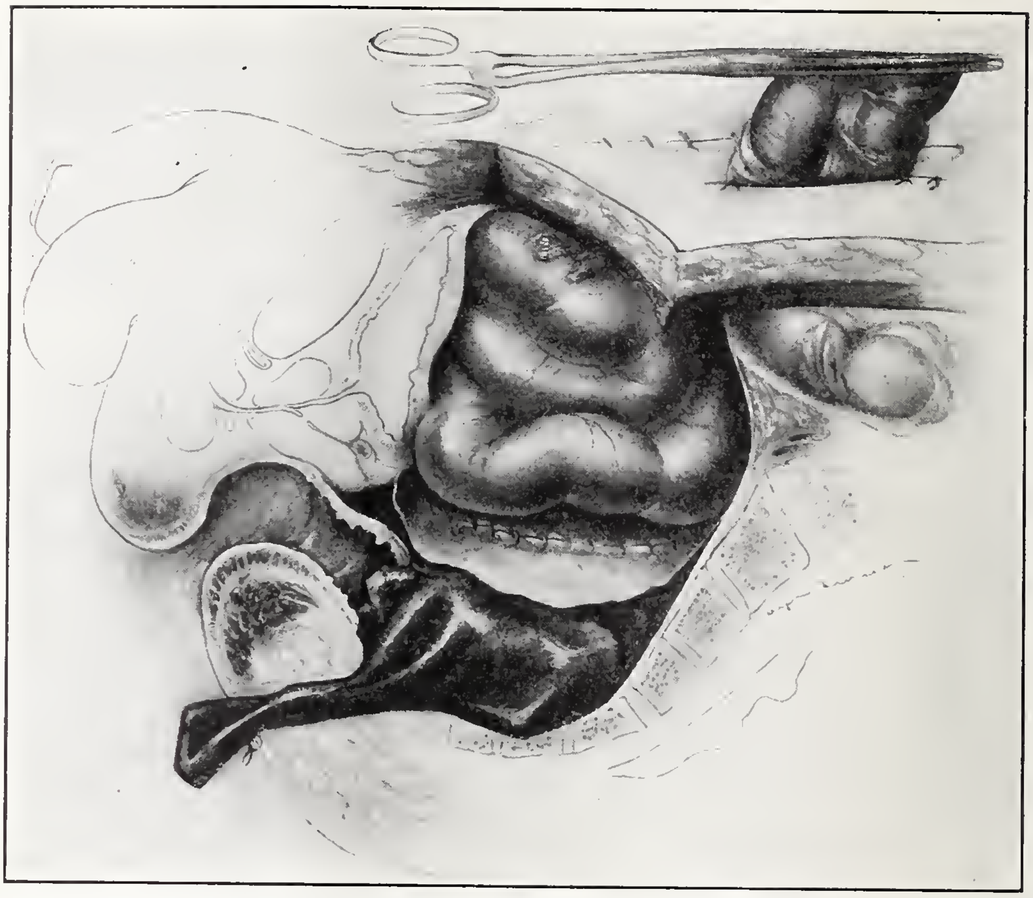

Fig. 1.—The pelvic peritoneum has been closed over the rubber dam which has been folded over the stump of the rectum and a corner of the rubber dam drawn out through an incision alongside the tip of the coccyx for drainage. Author's clamp on the stump of the rectum is shown through the rubber.

Few, if any, surgeons will disagree with the statement that the abdominoperineal resection with permanent colostomy should be done whenever possible. Mr. Miles has proved that a much smaller percentage of recurrences will follow this operation in which the lower sigmoid and the sigmoid mesentery are entirely removed than will follow the operation of posterior resection, in which operation the dangerous tissues of the mesosigmoid cannot be removed. If the primary mortality in the abdominoperineal resection could be reduced to that of the operation of posterior resection following preliminary colostomy, all surgeons would agree that the more radical procedure should be used. The effort, therefore, in the last few years has been to reduce the primary mortality of the more extensive operation. I believe that this has been largely accomplished. Even the one-stage abdominoperineal resection has been accomplished with a primary mortality comparable to the less extensive operation, by some surgeons. I believe, however, that the two-stage procedure will result in a lower primary mortality in the hands of the average surgeon.

The chief objection urged against the two-stage procedure has been that good drainage could not be secured and that during the interval between the first and second stage a large amount of purulent toxic material would accumulate in the pelvis and gush out when the posterior resection was done at the second stage. To this lack of drainage could be attributed much of the toxemia, peritonitis, and therefore, mortality following the first stage. This has been entirely avoided by the type of drainage I have used for the past three years, which is shown in the illustration. This drainage was suggested to me by Dr. Stanley Mentzer, who should have the credit for it.

At the present time the two-stage procedure should be accomplished with a primary mortality of less than 10 per cent. The factors which have contributed to the lowering of the primary mortality in the radical abdominoperineal procedure have been the use of spinal anesthesia, more careful preliminary preparation of the patient, transfusion, vaccination against peritonitis, and good drainage.

For patients who are in poor condition and have suffered from marked stasis and obstruction a distinct forward step has been accomplished by Lahey[1] and also by Bartlett[2] and Rankin[3] in their recently reported operations, wherein a preliminary single-barrelled colostomy is done at the first stage, the patient allowed to return home and build up in general health before the major procedure of abdominoperineal resection is attempted. These operations differ in technique but accomplish the same purpose, and the second stage in the Lahey operation may be divided into two stages if the condition of the patient seems to preclude removing the entire rectum and sigmoid at the second stage. These operations have the disadvantage of opening the abdomen twice, but the primary mortality reported would indicate that this is not a serious objection. There can be no question that it is an advantage and a safeguard to secure proper functioning of the colostomy prior to the major procedure in patients who are in poor condition.

INOPERABLE CASES

Under the heading of inoperable cases I include not only those in which metastases have taken place that cannot be removed and the local growth is so far advanced that complete removal is not feasible, but also those cases in which the condition of the patient's health, because of age or general condition, precludes a radical procedure. In such cases much comfort will be given the patient by an early colostomy. I am in entire accord with Miles,[4] who says: "From my experience of these cases I am convinced that as soon as carcinoma of the rectum is found to be inoperable, every day lost before resorting to colostomy is a day to the bad."

Following colostomy, deep x-ray therapy, and the application of radium are often very valuable palliative procedures.

I prefer for these cases the Sistrunk[5] type of colostomy in which the two arms of the gut are separated by an inch of the entire abdominal wall.

If these inoperable cases are in sufficiently good condition and the local growth has not advanced to the point of complete fixation, the question should be carefully considered whether the primary growth should be removed even though there be metastasis to the liver or extensive glandular involvement. I am in accord with the views of Jones on this subject. He believes that we are justified in removing the local growth under these circumstances if the patient can be given six months of comfort. As a matter of fact this procedure will result in more than a year of comfort in many cases. One of my patients who had a large metastatic nodule an inch and a half in diameter in the liver at the time of the abdominoperineal resection gained forty pounds, was in perfect health for twenty-three months and was only sick about six weeks prior to his death. Jones told me of a patient of his who lived eight years under similar circumstances. There is no question that the patient will be much more comfortable if it is possible to remove the local growth.

909 Hyde Street.

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DISCUSSION

Stanley H. Mentzer, M. D. (450 Sutter Street, San Francisco).—Dr. Dudley Smith's article presents a sane and hopeful outlook for the patient suffering from cancer of the rectum.

There are many choices in the operative attack upon cancer of the rectum, but I have found none so successful as the operation which Doctor Smith has initiated. It has been my good fortune to do a few cases myself and to help Doctor Smith with twenty-two operations of his own. I feel quite certain that as others become familiar with Doctor Smith's technique, his method will become preferable for those who are engaged in rectal surgery.

The method of drainage which is now used consists of a large rubber dam, almost half a yard square, which is draped about the proximal portion of the distal segment of the rectum before the peritoneal floor is made. One or more corners of this tent-like covering are then brought out through an incision made lateral to the coccyx. In this way the desquamation of tissue which follows ligation of the superior hemorrhoidal artery is adequately drained by gravity, and possible leakage from the rectal stump is enclosed by the rubber dam tent so that it is virtually impossible for retroperitoneal dissection of exudates to occur. Furthermore, defects in the newly created peritoneal floor are not serious, for they become sealed over before any discharge can escape from below the rubber drain.

The basic principles of Doctor Smith's operation are simple and surgically sound, and when his method is mastered, resection of the rectum for cancer according to his plan is rapid, thorough, and unusually safe.

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John W. Cline, M. D. (490 Post Street, San Francisco).—Doctor Smith has given a clear presentation of the present status of carcinoma of the rectum. I agree with his opinions and would like to emphasize a few of the points he has made.

A large proportion of the cases of carcinoma of the rectum coming to the attention of the surgeon have advanced beyond the stage where the disease can be successfully dealt with by surgical methods. A small part of this responsibility rests with the layman for not consulting his physician concerning early symptoms of rectal disease. A greater responsibility rests upon the members of the medical profession. We must make every effort to impress upon the public the fact that bleeding from the rectum is a sign of disease for which a physician should be consulted without delay. The medical profession has also been justly criticized for the laxity of its methods of examination. Too frequently a history is obtained which tells of the patient being treated for hemorrhoids without thorough investigation. Since the responsibility for medical publicity and adequate examination rests upon us we cannot avoid censure for the large number of cases reaching an inoperable stage.

Rarely an attempt to preserve the sphincter ani may be justified, but it is far better to sacrifice the sphincter than the chances of the patient to avoid recurrence. For practical purposes it may be said that adequate treatment of carcinoma of the rectum demands a permanent colostomy.

Frequently patients have a horror of abdominal colostomy. Occasionally the disagreeable features of colostomy have been unduly impressed upon the patient by his physician. An abdominal colostomy properly constructed and well cared for is the best substitute for a natural anus which has been developed. It possesses many advantages which the perineal artificial anus lacks.

The choice of operation must be largely decided by the operability of the growth, as determined by the degree of local fixation and the existence of demonstrable metastases, and the ability of the patient to withstand a surgical procedure of considerable magnitude.

Simple colostomy, particularly with separation of the proximal and distal ends, will give the patient with an inoperable lesion a considerable amount of relief.

Colostomy, plus posterior resection, should be the operation of choice for patients whose general condition is such that they could not be expected to withstand a combined abdominoperineal resection. It is also a satisfactory operation for very low growths.

From the standpoint of total eradication of the disease the combined abdominoperineal resection in one stage is probably the operation of choice. It is a surgical procedure of first magnitude and should be undertaken only with patients in excellent general condition.

A combined abdominoperineal resection in two stages is the best alternative and is the operation of choice in the vast majority of cases. It has many variations. The early high mortality attributed to it was due to the infection occurring beneath the newly constructed pelvic floor resulting from the deprivation of blood supply to the portion of the colon to be removed. The type of drainage suggested by Doctor Smith, and subsequently advocated by Miles, answers most of the criticisms of the two-stage procedure. I have had an opportunity to follow several cases in which this type of drainage has been used and agree with Doctor Smith that it adequately takes care of the element of infection. I believe that it will do more to maintain the mortality of this operation at a low level than any other single factor in technique.

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Clarence G. Toland, M. D. (902 Wilshire Medical Building, Los Angeles).—The satisfactory surgical management of tumors of the left colon, particularly of the rectosigmoid and rectal area, has been and is a problem that has intrigued the interest of our best surgical minds. Not so many years ago the individual who was unfortunate enough to be afflicted with a malignant rectal growth was given little encouragement, and his prospects for the future were very dark indeed. Palliative procedures, such as a simple colostomy, were offered, and only occasionally was an attempt made completely to eradicate the neoplastic process by a posterior resection.

The colostomies were frequently so poorly placed and constructed that their care was a heavy burden to the patient, and more likely than not he shunned his friends and was ostracized from society.

The posterior resection was a formidable procedure, entailing a heavy mortality, and many cases suffered from the disability incident to excision of the coccyx and part of the sacrum. The percentage of early recurrence was high and on the whole the results were most discouraging.

With the advent of the combined abdominal and perineal resection the situation improved and as the technical difficulties have gradually been overcome we have been able to offer our patients a reasonable chance for a cure. The postoperative disability has been materially lessened, allowing the individual the pleasures of society and the normal pursuit of his occupation.

A number of operative procedures have been devised in accomplishing the abdominoperineal resection, and they all have merit, particularly when applied to selected cases. Perhaps in no other condition is the axiom "Fit the operation to the patient, and not the patient to the operation," so true as in cancer of the rectum. Dr. Dudley Smith has been a substantial contributor in this field, and I, personally, prefer the type of operation he advocates. The little clamps he has devised have greatly facilitated the resection and have enabled us to frequently perform the operation in one stage. The use of the cautery in the perineal stage of the excision has proved to be most satisfactory. When we think of patients with five-year cures who are able satisfactorily to follow exacting occupations such as teaching school or the ministry, we cannot but realize that definite progress has been made, and the men who have made this possible are to be congratulated.

CRANIOCEREBRAL INJURIES*

A STUDY OF TWELVE HUNDRED CASES

By Delbert H. Werden, M. D.
Los Angeles

Discussion *by Howard W. Fleming, M.D., San Francisco; Cyril B. Courville, M.D., Los Angeles.*

During the past decade frequent reports of large series of head injuries, both with and without skull fracture, have appeared in the literature. These have been prompted by the rapidly increasing number of craniocerebral injuries incident to modern life. The compilation of such reports is tedious and exacting, but in clinical experience and judgment statistics of this sort can be of considerable value.

CLINICAL MATERIAL FOR THIS STUDY

The material here presented consists of 1200 consecutive cases of head injury admitted to the neurosurgical service of the Los Angeles County General Hospital from July, 1929, to January, 1931, a period of approximately eighteen months. Rand and Nielsen[1] (1925) reported a series of 171 cases of proved skull fracture taken from 580 consecutive cases covering a period of approximately forty-one months from the same service of this hospital. The comparison of 580 cases occurring in forty months to 1200 cases in eighteen months shows the great increase in number of head injuries, as they are now five times as common as was the case six years ago, if one can judge by comparing two series of patients admitted to the same hospital.

The patients in this series were admitted to the service upon the basis, either of a history of head injury with loss of consciousness, even if that was momentary, or because examination by the admitting physician revealed evidences of a recent cranial injury. Patients are not included who left the hospital within a few hours without having had an x-ray examination of the skull, the period of observation being of too short a duration for inclusion in this series. The only fatal cases which were not included were those who died before an adequate physical examination could be done. Ninety-seven and a half per cent of the patients in this series received x-ray study, the only exceptions being patients whose condition was too critical to permit of this procedure. Few, if any, other series of head injuries which were reviewed received as high a percentage of x-ray study. Postmortem examinations were done in practically all fatal cases, as they came under the coroner's jurisdiction. Doctors Wagner and Schaefer carried out these examinations and permitted detailed microscopic studies in many of the cases. It should be added that one of the neurosurgical staff was present at about one-third of the postmortem examinations. Only four cases of the series were not autopsied; three were cases of obvious cerebral hemorrhage, and the fourth a severely depressed skull fracture.

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* From the Neurosurgical Service of Dr. Carl W. Rand, Los Angeles County General Hospital.

* Read before the Neuropsychiatry Section of the California Medical Association at the sixtieth annual session, San Francisco, April 27-30, 1931.

TABLE 1.—*Etiology in Recovered and Fatal Cases and in Fracture Cases*

	1	2	3	4	5	6	7
	Total	Per cent	Auto Accident	Hit by Auto	Assault Blows	Falls	Others
Total No. all cases	1200	100%	424	438	97	160	171
Recovered Fatal	1100 100	92% 8%	94% 6%	92% 8%	95% 5%	88% 12%	91% 9%
Number of fracture cases	371	100	125	107	28	57	54
Vault	103	28%	25%	35%	36%	21%	22%
Base	149	40%	45%	37%	39%	35%	40%
Vault and base	119	32%	30%	28%	25%	44%	37%

ETIOLOGY

The causes of head injury were found to fall principally into three groups, namely, one, automobile injuries; two, falls; and three, assaults.

Thirty per cent of the patients (125) who sustained fractures of the skull were injured while riding in automobiles. In about half of these 125 cases the fracture was in the base of the skull (Table 1, column 3). Bacon and LeCount [2] found that 34 per cent of the fractures in their series were in the vault, while 19 per cent were in the posterior fossa. This corresponds closely to the number of fractures (55 per cent) in my series which involved both of these areas. That the base is so frequently fractured may be due to the fact that in automobile accidents the impact to the vault is diffuse and the force is transmitted in greatest intensity to the weakened floors of the skull. Only 6.1 per cent of the people injured by automobile accidents died. Pedestrians (Table 1, column 4) comprise the largest single group of those suffering craniocerebral injuries. The incidence of fractures, however, is lower (25 per cent) in these injured pedestrians, who comprise 107 cases. This may be due to the fact that, when struck by an automobile, the patient in falling tends to protect his head. While skull fractures are fewer in pedestrians struck by automobiles, the mortality is slightly higher (8 per cent), showing that factors other than the head injury alone tend to cause death.

The automobile, in some manner, was directly responsible for the injury in 72 per cent of all the cases in the series here presented. A review of four series of head injuries by other writers over the period from 1918 to 1928 (Table 2) shows the relative increase of the automobile as an etiological factor in causing injuries. My figures are much higher than those given by Vance [3] (37 per cent) and McCreery and Berry [4] (21 per cent). However, it must be borne in mind that all of Vance's cases were fatal, and, furthermore, that the period described by him covered the years from 1920 to 1926, while those described by McCreery and Berry covered from 1920 to 1928. My findings of increased percentage of those injured by automobiles may, in part, be due to lack of traffic regulation and, in part, to the greater use of motor vehicles.

Falls (Table 1, column 6) come next to automobiles as a cause of craniocerebral injury. The two together comprise 85 per cent of all causes. Falls of some description carry the highest mortality (12 per cent) and the greatest incidence of skull fracture (36 per cent). This may be due to the fact that the falling patient is unable to protect his head, and that the head nearly always strikes the ground or some other object. Of the fractures caused by falls, most involved the base (38 per cent) or the base and vault (44 per cent), while in a smaller number the fractures were confined to the vault alone. These figures suggest that in this type of injury the impact is unusually severe and that the resultant cranial damage is more extensive.

Assaults (Table 1, column 5) are the third most frequent cause of craniocerebral injuries, and are the least fatal (5 per cent). In these cases 36 per cent show fractures of the vault, while 39 per cent show fractures confined to the base. It was a surprise to find that a greater number of persons assaulted had basal fractures than had fractures confined to the vault, as one usually associates vault fractures with blows directed to the calvarium.

TABLE 2.—*Etiology—In Reports of Previous Years*

Cause of Injury	1918 LeCount and Apfelbach	1925 Rand and Nielsen	1926 Vance	1928 McCreery and Berry	1931 Werden
Automobile	48	83	189	110	862
Falls	219	25	156	179	160
Assaults, Blows	51	14	33	62	97

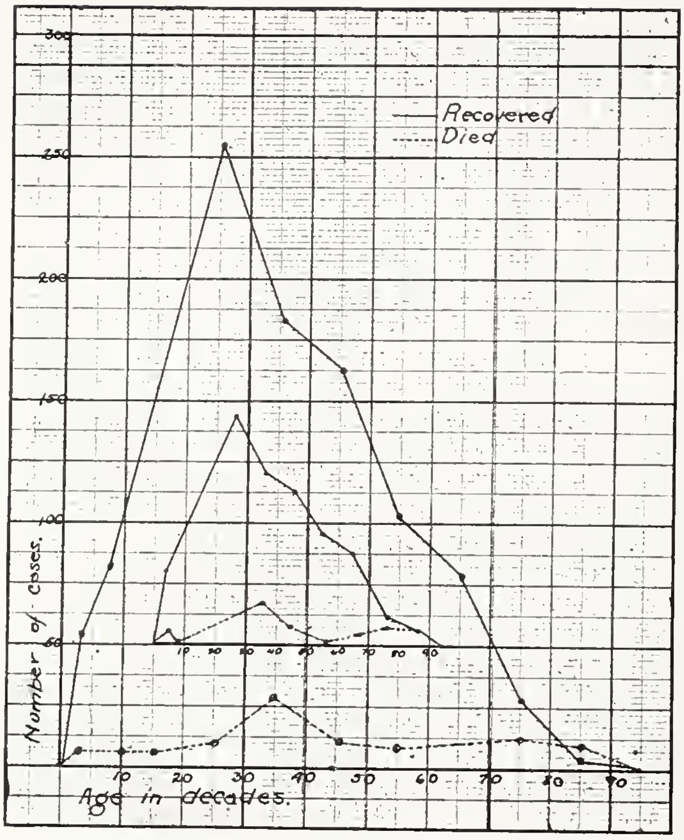

Fig. 1.—Age incidence in recovered and fatal cases. (a) Larger figure for total series. (b) Smaller figure for patients with skull fracture.

AGE

The age curves in Figure 1 show that the largest number of all patients were in their third decade of life. The graph shows a rapid rise during the early decades and a somewhat more gradual fall during later life. Coincidentally, while the greatest number of injuries falls in the third decade, the highest mortality occurs in the fourth decade. Otherwise the percentage of deaths is fairly evenly distributed among the remaining decades. The larger graph, representing the whole series (1200), is practically identical to the smaller graph, representing the smaller series of patients who sustained fractures of the skull (371). The peak of the curve in each series is found in the third decade. Likewise, the curves for the fatal cases were similar.

In Figure 2 are shown graphs representing those patients who sustained fractures of the skull. The age of the patient is compared to the type of injury. I find that, in the third decade of life, automobile accidents are the principal cause of injury. On the other hand, patients between the ages of forty and seventy years who receive fractures are more frequently injured by automobiles while walking. During the first decade of life falls and automobiles striking pedestrians cause most of the injuries.

FRACTURES OF THE SKULL

The presence of fractures of the skull was determined by one or more of three methods, namely, physical examination, x-ray study, or by postmortem findings. They were classified according to location either as being in the vault, the base, or both. Those of the vault alone were shown by x-ray examination or by autopsy. Those of the base were diagnosed clinically by the presence of a bleeding ear or by ecchymosis of an eye, or were revealed at autopsy. Those involving both the vault and base required all methods of diagnosis. Fractures of the vault were classified according to their location in respect to the frontal, parietal, temporal or occipital areas, while in basal fractures the particular cranial fossa involved was mentioned. Fractures of the occipital bone were classified with those of the vault. This was done because no marked anatomical difference separates that part of the bone which forms the floor of the posterior fossa from that which extends into the vault. Furthermore, fractures of the occipital bone are clearly shown on the x-ray film, just as are fractures of the vault proper. On the contrary, fractures elsewhere in the base, *i. e.,* in the middle or anterior fossae, are very seldom demonstrated by the x-ray. Of the entire series, 371 patients (31 per

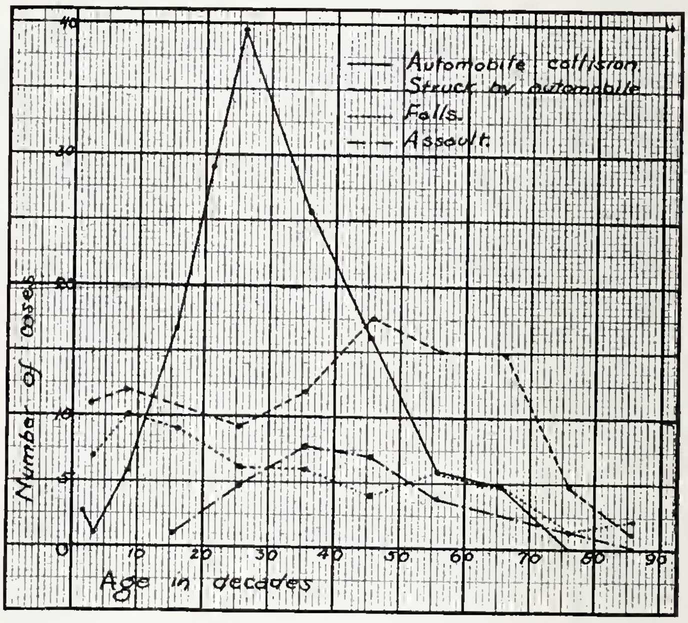

Fig. 2.—Cases of skull fracture, showing the causes of injury in each decade of life.

Table 3.—*Etiology of all Fractures*

	1	2	3	4	5
Location of Fracture	Total Number	Auto Acc.	Hit by Auto	Assault, Blow	Falls
(a) Vault	103	31%	36%	10%	12%
(b) Base	149	38%	27%	7%	13%
(c) Vault and base	119	31%	25%	6%	21%

TABLE 4.—*Fractures of the Vault—In Relation to Number, Sex, Etiology, and Site of Fracture*

	1	2	3	4	5	6	7	8	9	10	11	12
	Incidence		Sex		How Injured				Site of Fracture			
Cases	No. of Fractures	Per Cent of All Cases	M	F	Auto Acc.	Hit by Auto	Assault Blow	Falls	Front.	Par.	Temp.	Occ.
(a) Total	222	18.5%	80%	20%	31%	30%	8%	17%	25%	52%	31%	20%
(b) Recovered	182	82%	81%	19%	31%	30%	7%	16%	28%	55%	29%	19%
(c) Fatal	40	18%	77%	23%	30%	33%	10%	20%	10%	37%	42%	22%
(d) Fracture of vault and base	119	54%	83%	17%	31%	26%	6%	21%	25%	59%	41%	16%
(e) Fracture of vault alone	103	46%	78%	22%	31%	35%	10%	12%	25%	45%	21%	24%

cent) were diagnosed as having a fracture of the skull. Of this number, 40, or 14.5 per cent, were fatal.

FRACTURES OF THE VAULT

Fractures of the vault alone (Table 3, line a) were more often caused by pedestrians being struck by automobiles. The majority of these fractures were diagnosed by x-ray examination, although a few which were compounded were diagnosed clinically. Fractures of this type will be found under Table 4. This group comprises 222 cases in all, of which 103 were fractures of the vault alone, and 119 were fractures involving both vault and base. The mortality of this series was 18.5 per cent, three times greater than the six per cent mortality found in patients without fractures. When the vault alone was involved by fractures, 45 per cent were parietal, and 21 per cent temporal. It was found, however, that when the impact was sufficient to fracture both vault and base, the fracture in the calvarium was extensive, and extended into more than one area in the vault, as shown in involvement in these cases of the parietal area in 59 per cent and the temporal area in 41 per cent. Fractures of the frontal bone occurred a little more frequently than those of the occipital bone.

FRACTURES OF THE BASE

It is exceedingly seldom that fractures of the base can be demonstrated by x-ray examination, consequently one depends upon external signs to establish this diagnosis. It is the consensus of opinion that one or more bleeding ears indicate a basal fracture in the middle fossa. In the absence of direct injury to the eyelids or to the rim of the orbit, ecchymosis of the lids of one eye is fairly definite evidence of fracture in the corresponding basal fossa. Furthermore, ecchymosis of the eyelids of both eyes is conclusive evidence of fracture across the floors of the anterior fossae. Vance[3] had shown that the roof of the orbit and the tegmen tympani are the weakest points in the base of the skull. These areas form the so-called webbs between radiating bony ridges and are, therefore, vulnerable to injury. Fractures of the base are summarized in Table 5. They constitute 22 per cent of all cases in this series and comprise a total of 268 cases. Of these, about half (55 per cent) were of the base

TABLE 5.—*Fractures of the Base—In Relation to Number, Sex, and Etiology*

	1	2	3	4	5	6	7	8	9
	Incidence		Sex		How Injured				
Cases	No. of Fractures	Per Cent of All Cases	M	F	Auto Acc.	Hit by Auto	Assault Blow	Falls	Others
(a) Total	268	22%	78%	22%	34%	26%	6%	16%	18%
(b) Recovered	228	85%	78%	22%	33%	28%	7%	16%	15%
(c) Fatal	40	15%	76%	32%	30%	25%	5%	25%	15%
(d) Fracture of base and vault	119	45%	83%	17%	31%	26%	6%	21%	16%
(e) Fracture of base alone	149	55%	73%	27%	37%	27%	8%	14%	14%

Table 6.—*Evidence of Basal Fracture*

	1	2	3	4	5	6
	Ecchymosis of Eyes			Bleeding from Ears		
Patients	Right	Left	Both	Right	Left	Both
(a) Recovered	30	28	63	50	49	18
(b) Fatal	6	5	9	7	5	3
(c) Total	36	33	72	57	54	21
(d) Fracture of base only	18	18	50	32	29	10
(e) Fracture of base and vault	18	13	22	25	25	11
(f) Total	36	33	72	57	54	21

alone and showed no x-ray evidence of fracture extending into the vault. The mortality in this group of fracture cases was 15 per cent. In almost half (45 per cent) of the fractures of the base found at autopsy, there had been no external signs to indicate the presence of the fracture.

Table 6 shows the distribution of signs of basal skull fracture. Ecchymosis of both eyes together (column 3) is more frequent than ecchymosis of either eye alone (columns 1 and 2). On the contrary, cases having one bleeding ear (columns 4 and 5) are much more common than those having bleeding from both ears, and are also more common than those having involvement of one eye. This leads one to assume that fractures of the anterior fossa are more likely to involve both fossae, while fractures of the middle fossae tend to involve but one fossa alone.

The relation between the external signs of basal fracture and an associated fracture of the vault is pointed out in Table 7. In from 34 to 47 per cent of patients suffering from bleeding ears or ecchymotic eyes the x-ray examination disclosed a fracture in the adjacent vault. It is found that unilateral ecchymosis and unilateral bleeding from the ears are more often associated with fractures of the adjacent vault, while, on the other hand, fractures involving both right and left fossae are more often confined to the base of the skull.

Comparison of clinical and postmortem findings in basal fractures was made (Table 8). The coroner found basal fractures in forty patients. In these patients only 55 per cent had shown clinical evidence of basal fracture. However, in a group of thirty-five fatal cases in which a diagnosis of basal fracture was made on the clinical evidence alone, the fracture was found at autopsy in twenty-nine, or 85 per cent of cases. This shows that, when present, the signs of bleeding ears and ecchymotic eyes lead to a correct diagnosis in a large per cent of cases. Of all patients in the entire series who recovered, 22 per cent were considered from a clinical standpoint to have basal fractures. Judging from the discrepancy between the coroner's findings of basal fracture in 40 per cent (of whom one-half showed no evidence of basal fracture) and the clinical estimation of fracture in only 22 per cent, one would suppose that in recovered cases the actual number of patients suffering from basal fracture would be much larger than the clinical findings indicate.

There were six additional patients, four of whom had blackened eyes and two bleeding ears. In these a presumptive diagnosis of basal skull fracture was made clinically, but at autopsy none was found. It is probable that the bleeding from the ears was from the tympanic membrane or external auditory canal alone, and that the blackened eyes were due to direct violence, which left no sign of injury other than the ecchymosis. This emphasizes the fact that, even with obvious signs, one must use care in examination and judgment when evaluating these findings.

Table 7.—*Clinical Signs of Basal Fracture—In Relation to Near-by Fracture of Vault, as Shown on X-Ray*

	1	2	3	4
	Ecchymosis of Eyes	Total Number	With Fracture	
			Number	Per Cent
Fronto-Temporo-Parietal	Right Left Both	36 32 72	17 11 20	47% 34% 28%
	Hemorrhage from Ears	Total Number	With Fracture	
			Number	Per Cent
Temporo-Parieto-Occipital	Right Left Both	56 54 21	24 22 1	43% 41% 5%

Spinal fluid examinations (Table 9) were carried out in relatively few cases in this series. The incidence of increased spinal fluid pressure was found practically the same in cases with and with-

Table 8.—*Verification of Clinical Evidence of Basal Fracture*

	1	2	3	4	5	6	7
	Ecchymosis of Eyes			Bleeding from Ears			
	Right	Left	Both	Right	Left	Both	Total
I.—Fracture correctly diagnosed							
(a) Found and located	6	3	4	4	5	2	24
(b) Found but not located	0	1	2	1	0	1	5
(c) Total	6	4	6	5	5	3	29
II.—Fracture incorrectly diagnosed							
(d) Diagnosed but not found	1	1	2	2	0	0	6
(e) Found but not diagnosed	6	2	2	7	4	2	23
(f) Total	7	3	4	9	4	2	29

Table 9.—*Spinal Fluid in Cases Fatal and Recovered and Cases With and Without Fracture*

	1	2	3	4
	Pressure		Appearance	
I.—Without Fracture	Increased	Normal	Bloody	Clear
(a) Recovered...	23	12	25	12
(b) Fatal	6	5	6	5
(c) Total	29 (63%)	17	31 (65%)	17
II.—With Fracture				
(d) Recovered...	23	15	30	7
(e) Fatal	15	8	20	1
(f) Total	38 (62%)	23	50 (85%)	8

out fracture. However, the occurrence of bloody spinal fluid was considerably higher in cases with fracture. LeCount and Apfelbach[6] stated that bleeding into the subarachnoid or subpial space occurred in about 95 per cent of all patients with skull fracture. As would be expected, both increase of pressure and occurrence of blood in the spinal fluid is found more often in the fatal than in the nonfatal cases.

MORTALITY FIGURES

One hundred of a total of 1200 patients died, giving a mortality of 8.3 per cent. Twenty-six per cent of these were women. Slightly over half (54 per cent) of the fatal cases had fractures of the skull. The average number of days in the hospital before death was 4.1 days, as is shown in Figure 3. Two patients died of internal hydrocephalus at sixty-five and seventy-two days, respectively, after receiving their injuries. Each of these patients had an occlusion of the aqueduct of Sylvius caused by fibrous tissue. It is assumed that in each patient the aqueduct had been filled by a blood clot which later became organized.

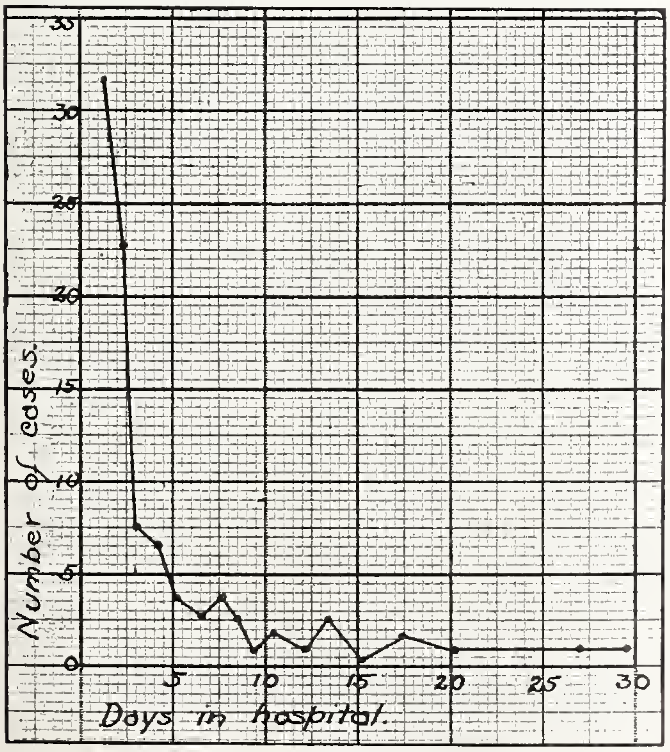

Fig. 3.—Fatal cases, showing the number of days in hospital before death.

CAUSES OF DEATH

These are summarized in Table 10. Three-fourths of all patients who succumbed following injuries of the head died of the craniocerebral injury *per se*. Their average extent of life following injury was 3.3 days. The lesion causing death in 66 per cent of these cases was some type of intracranial hemorrhage. In addition, nine patients died of other intracranial complications, consisting of hydrocephalus, meningitis, fat embolism, and cerebral softening. The average duration of life for these patients with complications was 26.6 days. Twenty-five patients died from causes other than craniocerebral trauma. The most frequent of these were pneumonia, punctured lung, and hemorrhage from ruptured abdominal viscera, while fracture of the long bones, cervical cord injury, and shock caused the death of the remaining patients.

Table 10.—*Fatal Cases—With Causes of Death*

	Number of Cases			Average No. of Days in Hospital		
I. Craniocerebral Trauma						
A. Immediate			66			3.3
Hemorrhage		47			3.3	
Extradural	7			1.7		
Subdural*	24			3.4		
Intracerebral	12			4.1		
Diffuse petechial	4			3.7		
Contusion and laceration		14			3.8	
Concussion		5			1.6	
B. Complications			9			26.6
Cerebral softening		1			27.0	
Cerebral embolism		1			11.0	
Meningitis		4			8.5	
Hydrocephalus		3			55.7	
		Total	75	Av. 6.0 days		
II. Other Causes						
Ruptured viscus and hemorrhage		7			1.8	
Pneumonia		6			2.5	
Pulmonary embolism		3			17.0	
Shock		3			3.0	
Cervical cord injury		2			9.5	
Senility (79 and 81 years)		2			15.0	
Perforated gastric ulcer		1			8.0	
Fractured extremities		1			2.0	
		Total 25		Av. 5.9 days		

* These cases include both localized and diffuse subdural hemorrhage, and diffuse subarachnoid hemorrhage.

SUMMARY AND CONCLUSIONS

1. Twelve hundred consecutive cases of craniocerebral trauma have been studied. The results of such a study should be of considerable value in establishing the incidence and locations of skull fractures, as well as the cause, the mortality and the fatal lesions in this type of injury.

2. The automobile causes by far the greatest number of injuries (72 per cent).

3. Fractures of the skull were diagnosed in 31 per cent of the patients. Fractures of the vault were proved by x-ray in 18.5 per cent. Fractures of the base were diagnosed clinically in 22 per cent of patients. About half of the basal fractures involved both the vault and the base.

4. In the absence of signs of direct trauma, ecchymosis of the eyelids and hemorrhage from the external auditory canal are reliable signs of basal skull fracture.

5. Basal fractures are much more common than is generally supposed, probably occurring in from 30 to 40 per cent of all patients suffering craniocerebral trauma.

6. The mortality varies from six per cent in patients without fracture to 14.5 per cent in patients with fracture. The greatest mortality (18 per cent) is found in the group of patients having fractures involving both vault and base.

7. Intracranial hemorrhage is the most common gross lesion found at autopsy.

1100 Mission Road.

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DISCUSSION

Howard W. Fleming, M. D. (384 Post Street, San Francisco).—Doctor Werden's painstaking study of such an extensive number of consecutive head injuries is a valuable contribution. It is rather alarming to note the rapid increase in the number of injuries caused by automobiles. The figures given suggest that serious head injuries are five times as common now as they were six years ago. Previously, extensive experience with this type of injury was limited to those specializing in neurosurgery or to surgeons doing a great deal of industrial work. Such an alarming increase in the number of automobile accidents emphasizes the necessity for better preparedness to care for serious head injuries on the part of the medical profession as a whole. In a considerable number of cases the decision as to therapy is difficult. No doubt many ill-advised operations are done and probably, more frequently, symptoms and signs suggesting the necessity for surgical treatment are not recognized. There are a few well-recognized principles which should be given wide publicity in the medical literature. Every physician should be prepared to treat shock in an approved manner and to interpret observations that suggest serious intracranial complication.

I was much impressed by the low mortality rate and especially by the low incidence of meningitis in this series of cases reviewed by Doctor Werden. The figures given must be interpreted as the results to be expected in a series of head-injury cases cared for under the most advantageous circumstances. Only a small percentage of such patients are treated by a trained and experienced personnel, working in hospitals which have all the necessary equipment.

It would be most interesting and instructive if Doctor Werden would supplement this report with an article detailing the methods of examination and treatment used by the neurosurgical service of the Los Angeles County General Hospital.

⁂

Cyril B. Courville, M. D. (1100 North Mission Road, Los Angeles).—A statistical study, such as here presented, furnishes material of great interest and value on the subject of brain injury. Such investigations as a whole, however, are often difficult to properly evaluate owing to the wide variation in limiting circumstances characteristic of the local situation. This study presents as near as possible a true insight into existing conditions as can be obtained from hospital records, particularly since the data comes from as large an institution as the Los Angeles County General Hospital. Doctor Werden has brought out the essential facts to be gained from such a study and these need not be elaborated upon further. All that can be added by way of discussion, perhaps, is a clarification of some of the existing circumstances, so that the figures presented may be of greater value to those statistically minded.

In Los Angeles, individuals sustaining head injuries from whatever cause (excepting industrial accident cases) are as a rule first taken to one of the receiving hospitals of the city, or one of the county health centers. If the patient survives for more than a few hours, he is transferred to a private hospital or to the Los Angeles County General Hospital, depending on his financial circumstances. The cases which Doctor Werden includes in his series represent, therefore, the individuals of this group who have been brought to the Los Angeles County General Hospital.

Of a series of eighty fatal cases coming to the coroner's autopsy, which have been made a subject of special pathological study, 8, or 10 per cent, were killed outright; 19, or 23.75 per cent, died within three hours; 18, or 22.5 per cent, died between three and twenty-four hours; 25, or 31.25 per cent, survived one to seven days; and 10, or 12.5 per cent, died after the first week following injury. As near as can be estimated from my figures, individuals constituting the first two groups (about one-third of all fatal cases), do not survive long enough to be admitted to this or private hospitals. Most of the others, constituting about two-thirds of the whole, had been transferred elsewhere. The survival periods of this group of fatal cases correspond closely to those given by Doctor Werden (Fig. 3) and, therefore, form a fairly accurate basis for computation. If this is true, Doctor Werden's figure for total hospital mortality (8⅓ per cent) represents perhaps two-thirds of the true mortality of all head injuries, making it about 12 per cent for Los Angeles County. The patients who succumb within a few hours would necessarily fall in the group of more severe head injuries with extensive basal fractures, laceration of the brain, and diffuse subarachnoid hemorrhage.

In order to get a true estimate of the existing circumstances in the given community, it would be necessary to make a rather extensive study of data secured from several sources, including the number of accidents as obtained from the police records, the number and fate of patients admitted to the emergency hospitals, a study of the coroner's statistics as well as information obtained from large, well-organized hospitals, such as has been presented here. Doctor Werden's figures are perhaps more significant to some of us who appreciate that most of these patients have been examined by him personally and remained under his observation during their stay in the hospital.

⁂

Doctor Werden (Closing).—I am indebted to Doctor Courville for his remarks which make more clear the fact that the figures in this paper are based solely upon the patients studied within the hospital. For statistics on head injuries throughout Los Angeles County, his comments are timely.

Doctor Fleming's discussion prompts me to add the following: The subject of craniocerebral trauma is itself so extensive that a lengthy monograph would be required to properly deal with all of its phases. In order to consider but a single aspect of the subject, I have limited myself in this paper to a more or less statistical study. We have had between five and six thousand cases of head injuries on the neurosurgical service of this hospital during the past twelve years. A system of treatment has been developed which we feel meets the conditions presented. It is hoped that this plan of therapy has been instrumental in lowering the mortality rate and the incidence of complications. The details of treatment as well as the pathology of head injury, the modus operandi of symptom production, the indications for operative intervention will probably be made the subjects of further reports from this service.

SIGMOID SINUS THROMBOSIS*

REPORT OF CASE

By Robert Levy, M. D.
AND
Herman I. Laff, M. D.
Denver, Colorado

A UNIQUE case of sepsis of otitic origin, occuring in our practice a short time ago, furnishes the basis for the following discussion under the general heading of sinus thrombosis. This is not to be an extensive dissertation on sinus thrombosis, but a consideration of some of the problems which presented themselves to us. It is hoped their discussion will prove instructive to the otolaryngologist as well as to the general practitioner.

REPORT OF CASE

History.—M. P., male, farmer, age eighteen, came into the office on July 21, 1931, complaining of right earache, general malaise, and fever. Aside from the usual childhood diseases and a tonsillectomy eight years ago, he had always been in good health, except that nine years previously his right ear commenced to discharge. This discharge later began to have a foul odor and continued intermittently until about four months ago, when it stopped completely. About two months later the ear began to pain him. The pain was deep-seated, as if it were located inside the head. This was soon followed by a recurrence of the discharge and relief of the pain. The ear then again stopped discharging, but caused him no particular pain until last night, when it became very severe.

Examination.—Examination revealed a thickening of the right tympanic membrane with a small perforation superiorly and anteriorly. There was a scanty, thin, watery secretion overlying the drum membrane. Patient's temperature was 103 degrees Fahrenheit, and his mental condition appeared sluggish. A diagnosis of an acute exacerbation of a chronic otitis media was made and the patient sent home for observation.

Course.—On the next morning we were called to see him because of increasing pain in the ear, vertigo, nausea, and vomiting. The temperature during the night had increased to 104 degrees Fahrenheit. Examination of the membrana tympani revealed no change. There was a first-degree nystagmus to the right. Hearing for the whispered voice was found to be ten inches for the S's and two feet for the 9's. The temperature was 99.4 degrees Fahrenheit.

The same morning (July 22) the patient was transferred to Saint Joseph's Hospital. On entrance he was nauseated, drowsy, and complained of slight headache. He vomited several times during the day, especially on exertion. That evening his temperature went up to 104 degrees Fahrenheit, and the next morning was down to normal. The nystagmus continued, there was a questionable Kernig and a questionable rigidity of the neck. Pressure along the anterior border of the right sternocleido mastoid muscle revealed tenderness. No tache cerebrale. No local mastoid signs.

At nine o'clock the next morning, patient had a severe chill which lasted fifteen minutes.

Because of evidence of meningeal irritation, a neurologist (Doctor Delehanty) was called in consultation that evening (July 23). Spinal fluid examination showed: Pressure not increased; colorless, clear; cell count 3; globulin negative; sugar 77.1 milligrams per 100 cubic centimeters; no organisms; Wassermann negative. Because of the above and negative neurological findings, he reported absence of meningitis.

To rule out some other condition that might be responsible for the septic manifestations, Dr. J. N. Hall, an internist, was asked to examine the patient. He reported the heart and lungs, appendix, gallbladder, veins of extremities, all negative. The urine showed nothing serious enough to cause patient's symptoms. He thought the trouble was all related to the ear, or, as he expressed it, "above the neck."

The pain in the ear and the other symptoms continued. There was another chill the next morning (July 24), followed by a rise of temperature to 102 degrees Fahrenheit, which later declined to 97 degrees Fahrenheit.

Laboratory Examinations.—Laboratory examinations on date of admission (July 22) showed: Urinalysis negative except for a positive albumin and occasional epithelial, pus, and blood cell.

Blood examination: hemoglobin, 80 per cent; red cells, 4,520,000; white cells, 10,400; polynuclears, 88 per cent; lymphocytes, 9 per cent; large mononuclears, 3 per cent. Schilling count: Immature cells, 47; Schilling index, 0.9.

X-ray of mastoids (July 23, by Doctor Crosby): "There is some pathology in the left mastoid, although all of the cell structure is apparently intact. The right mastoid shows a broken outline of the anterior wall of the lateral sinus which apparently is due to necrosis. At this point there is increased density of the shadow of the lateral sinus which may indicate a thrombosis."

With the above clinical picture and laboratory reports a preoperative diagnosis of right sigmoid sinus thrombosis was made, and the patient was operated at noon on July 24.

Findings on Operation.—The mastoid was sclerotic and dense, and devoid of cellular structure except for slight pneumatization of the tip. There was much bony vascular engorgement and the bleeding was very profuse and difficult to control. The mastoid process was widely exenterated, with free exposure over entire mastoid area and large exposure of dura. No lateral sinus was found. The dura was incised in two places at supposed location of sinus, but no free bleeding occurred nor was any clot found, forcing us to presume the absence of a right sigmoid sinus.

Postoperatively the patient continued to run a septic temperature, reaching as high as 103.8 degrees Fahrenheit, then dropping to normal or below normal for a period of four days, and preceded by one or two chills daily. On July 28, fifth day postoperative, the temperature only went up to 100 degrees Fahrenheit. The next day (July 29) the temperature again rose to 104 degrees Fahrenheit, then dropped to normal; varied between 101 and 103 degrees Fahrenheit on the 30th; remained around 100 degrees Fahrenheit on the 31st, and thereafter continued normal, when the patient entered upon his convalescence and has remained well since then.

Culture from the mastoid taken at operation was reported, "contaminated with air organisms." Culture from material obtained from the right middle ear, after incision of right membrana tympani at time of operation, was reported negative. Blood culture taken postoperatively revealed no growth.

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* Read before the Eye, Ear, Nose, and Throat Section of the Utah State Medical Association, September 9-11, 1931.

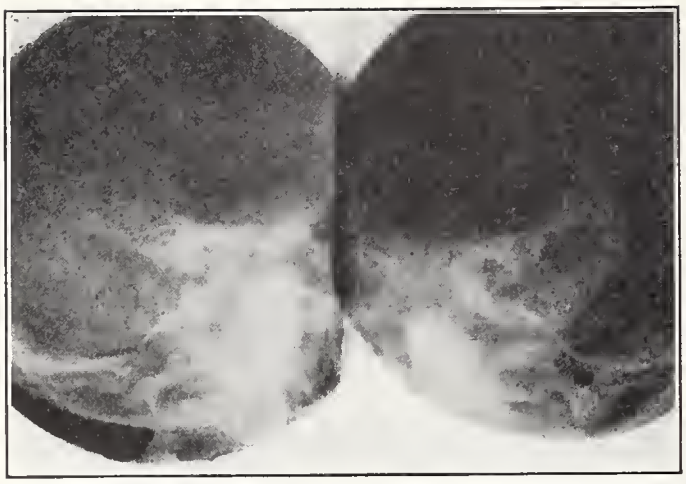

Fig. 1.—X-ray of mastoids taken prior to operation. On the right side the lateral sinus appears to end abruptly, just after it becomes the sigmoid sinus. On the left side the anterior wall of the sigmoid sinus is shown almost in its entirety.

Further blood examinations following operation showed:

July 28. Polynuclears, 78 per cent; small lymphocytes, 20 per cent; large mononuclears, 2 per cent. Schilling count: Immature cells, 36 per cent; Schilling index, 1.1.

July 30. Polynuclears, 84 per cent; small lymphocytes, 15 per cent; large mononuclears, 1 per cent. Schilling count: Immature cells, 33 per cent; Schilling index, 1.2.

August 3. Hemoglobin 66 per cent; red cells, 4,000,000; leukocytes, 8,000; polynuclears, 61 per cent; small lymphocytes, 37 per cent; large mononuclears, 2 per cent. Schilling count: Immature cells, 21; Schilling index, 1.9.

During the course of the illness the pulse rate ranged: before operation, from 100 to 52; and after operation, from 120 to 40. Respiration, before operation, from 20 to 24; after operation, from 38 to 20.

COMMENT

Keeping in mind the salient features of the above case, we feel that a preoperative diagnosis of sinus thrombosis was fully justified from the clinical course. The occurrence of chills and high temperature, followed by sweating and drop, is considered to be the expression of the organism to the periodic flooding of the circulation with bacteria or their products. Occurring in the course of an acute, or in an exacerbation of a chronic otitis media, and with no other apparent cause to account for it, we know of no other diagnostic problem in our field which has more frequently borne out our preoperative assumptions than the diagnosis of sinus thrombosis.

However, following consultations with a neurologist and internist, who found nothing else to account for the symptoms, when we opened the mastoid we not only did not find a thrombosis, but were deeply chagrined when we even failed to locate a sigmoid sinus.

In spite of this unusual experience, we feel justified in maintaining that we were dealing with a sepsis of otogenic origin.

Kopetzky[1] has emphasized that otogenic sepsis may not only be due to a frank thrombosis of the sigmoid sinus, but frequently occurs as a result of an osteothrombotic phlebitis of the small veins coursing in the bony structure of the mastoid process. This latter condition is associated with the so-called hemorrhagic type of mastoiditis, which is frequently dramatic in its onset and disastrous in its ensuing complications. The *Streptococcus hemolyticus* is the offending organism. Early eradication of the septic focus in the form of a mastoidectomy will frequently result in cure of the sepsis.

We have reason to believe that such may have been the situation in our case. The tremendous vascular engorgement of the entire osseous structure which we found at operation, is a characteristic finding in an osteothrombotic mastoiditis.

APPARENT ABSENCE OF SIGMOID SINUS

The apparent absence of a sigmoid sinus, we feel, tends to corroborate this conclusion. Otologists of mature experience may never encounter such an anomaly, judging from the scant reports in the literature, yet it has been known to occur. One of us had the good fortune of dissecting a skull in which the right sigmoid sinus was entirely absent from the knee to the bulb. This specimen was presented before the Vienna Otological Society in April 1929, and reported in the American literature[2] in February 1930, together with a résumé of the embryologic development of the venous sinuses inside the skull. The occurrence of this interesting and rare anomaly was explained on an embryologic basis.

In September 1930, Williams[3] of the Mayo Clinic, referred to this article and reported a similar case encountered at operation.

Other anomalies of this vessel include: marked narrowing of the sinus, double sigmoid sinus, and partial absence. Graphic illustrations will better serve to demonstrate these anomalies. This will be attempted later in a lantern-slide demonstration.

DIAGNOSIS OF SINUS THROMBOSIS

We wish to emphasize the importance of an early diagnosis in cases of sinus thrombosis and review the various means at our command in so doing. At the same time we would urge the attending physician to refrain from adopting a panicky attitude and the institution of operative procedures until the diagnosis is established. A few days' delay does not necessarily entail disastrous consequences. Metastases as a rule do not occur early in the course of the disease.[4] We have seen cases that have existed for weeks with extreme emaciation and anemia get well under proper operative management. We have also seen cases of unmistakable pyemia of otitic origin get well without operation.

This, however, should not mislead us into a false sense of security. In addition to the well-recognized clinical picture as manifested by chills, rise in temperature with subsequent drop to near normal or below normal, sweats and the demonstration of bacteria in the blood stream, occurring in the course of an acute or an exacerbation of a chronic otitis media, there are certain refinements in diagnosis which are said to be of help.

The blood picture very often shows a marked anemia, the hemoglobin dropping to as low as

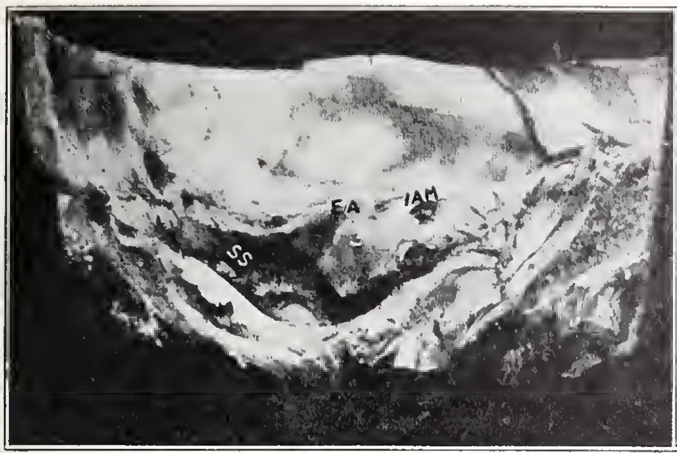

Fig. 2

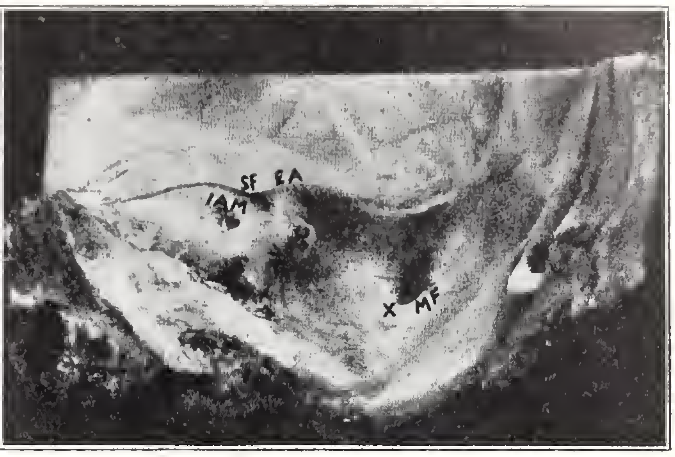

Fig. 3

Fig. 2.—Left temporal bone of dissecting-room specimen referred to in text, showing large sulcus for sigmoid sinus. EA indicates the eminentia arcuata; IAM, the internal auditory meatus; and SS, the sulcus for the sigmoid sinus.

Fig. 3.—Right temporal bone of dissecting room-specimen referred to in text, showing complete absence of sulci for the sigmoid and superior petrosal sinuses. Note the infantile character of the petrous pyramid with a prominent arcuate eminence, a subarcuate fossa, and a convexity for the sagittal semicircular canal as well as the superficial opening for the vestibular aqueduct. AV indicates the aqueductus vestibuli; EA, the eminentia arcuata; IAM, the internal auditory meatus; MF, the mastoid foramen; SC, the sagittal semicircular canal; SF, the subarcuate fossa. The portion from X to X shows the complete absence of a sulcus for the sigmoid sinus.

35 to 40 per cent. This, of course, is due to the destructive action of the bacteria on the red blood cells.

The leukocytosis usually reaches 18-20,000, with a corresponding increase in the polymorphonuclear leukocytes. Since the advent of the Schilling count, some otologic observers have been stressing its value in the diagnosis and prognosis of the complications resulting from otitis media and mastoiditis. In cases of sinus thrombosis the immature or staff cells are greatly increased, with a corresponding fall in the Schilling index. As in other overwhelming infections, the bone marrow attempts to respond with an increased supply of white cells, but the urgency of the body's demand is so great that it is forced to throw into the circulation leukocytes which are still immature. The large percentage of immature cells in our patient helped to convince us that we were dealing with a virulent infection.

Although a bacteremia is probably present at some time during the course of an otogenic sepsis, it is not always easy to demonstrate. The blood culture is more likely to be positive if taken during a chill or immediately after it. Because of the well-known ability of the blood to destroy bacteria, it has been felt that blood withdrawn from a peripheral part of the circulation, as from one of the arm veins, is less likely to show a positive culture than if withdrawn from a site closer to the septic focus. Ottenberg [5] has therefore recommended the withdrawal of blood from the internal jugular vein.

Where there is a double otitis media and it is important to determine the side which harbors the thrombus, Ottenberg has also recommended the simultaneous withdrawal of blood from each internal jugular vein. After culture, the side presenting the greater number of colonies should indicate the site of the thrombosis. This, however, has been shown to be only theoretically true. In cases of mural thrombus, where there is no great hindrance to the circulation, this will hold true. Where an obturating thrombus is present the venous flow is reversed and finds it way through the torcular and petrosal sinuses to the opposite jugular. The latter, therefore, carries away more bacteria-laden blood than the jugular on the affected side.

Where large series of cases have been reported, the percentage of positive blood cultures has varied between wide limits. Errors in technique, the nature of the clot, the time element and other factors have been invoked to explain these inconsistencies, so that we are forced to the conclusion that a negative blood culture by no means rules out a sinus thrombosis.

Queckenstedt's original observation that compression of both internal jugular veins in the neck produced an increase in the spinal fluid pressure, has served as the basis for a test to determine the presence or absence of a thrombus in the sigmoid sinus. If compression is made on the side where a thrombus is suspected, and no rise in the spinal fluid pressure is noted, this finding is confirmatory of the presence of a thrombus. In cases of bilateral otitis media, this experiment may be invoked when it becomes necessary to determine the side on which the thrombus exists. The test in this country is known as the Tobey-Ayer [6] test.

The value of this test, however, has not come up to expectations because it presents fallacies in its performance and interpretations of results. In children its usefulness is lessened by lack of coöperation. Coughing, crying, holding of the breath, moving of head and body, will cause an increase of pressure. Inequality or difficulty in compressing the veins will nullify the results.

The increase in the cerebrospinal fluid produced by circulatory changes in the brain and its membranes accounts for the retinal and optic nerve changes seen in some cases of thrombosis. Examination of the eyegrounds thus may prove of value. In some series these changes have only been noted in 10 per cent of the cases. Dilatation of the retinal veins, blurring of the disk margins and papilledema are the phenomena to be looked for. Here again an engorgement of the fundus or a papilledema on one side is said to be significant in determining the site of the lesion. The fundi may also be observed during compression of the internal jugular veins. According to O. Beck and Crowe, under normal conditions the retinal veins will only appear congested on bilateral compression. Where there is an obliterating thrombus on one side, compression of the opposite side will produce the similar congestion.

Among the local signs, we may mention: Griesinger's sign, showing edema and tenderness at the point of exit of the emissary vein; diminution in intensity or absence of the bruit heard by compressing the jugular; and the presence of a tender swelling along the course of the internal jugular in the neck. With the latter there may be pain on turning the head and pain on swallowing.

If the thrombus has extended down to the bulb and an abscess has been produced in its locality, signs of inflammation of the ninth, tenth, and eleventh nerves may manifest themselves. Thus we may have paralysis of the muscles of deglutition, pain on swallowing, paralysis of the soft palate; slow pulse, hoarseness, aphonia and dyspnea; and spasms of the sternomastoid and trapezius muscles.

A frank evaluation of the above mentioned signs and tests discloses that too much dependence on their aid will prove disappointing. Their absence can hardly be regarded as ruling out sinus thrombosis and their presence is only weakly confirmatory.

If we were confined to one clinical sign we would place our greatest reliance on the temperature curve, first, however, eliminating such septic diseases as: erysipelas, infectious pharyngeal and nasopharyngeal processes, influenza, pneumonia, endocarditis, typhoid, malaria, tuberculosis, puerperal sepsis, rheumatism, cervical adenitis, pyelitis, etc. Indeed, as Haymann [7] states, it is the first and often only sign of this disease. High fever, even with remissions, occurring in the first days of an acute otitis media, especially in children, should not mislead us. Occurring, however, later in the course, especially following an afebrile interval, it becomes very significant of intracranial mischief. Of the intracranial complications, meningitis is the one that most frequently must be differentiated from sinus thrombosis.

We have been struck with the constancy of the occurrence of a feeling of euphoria in the course of this disease. In spite of the clinical evidence of overwhelming toxemia, patients frequently belittle the gravity of their condition and feel mentally stimulated. In fact it has been said: "This condition is so characteristic that when there is a very high temperature with middle-ear suppuration, and the patient feels very well, one should strongly suspect the presence of sinus thrombosis." [8]

Reverting to the case report we have presented, we have assumed that we were dealing with a unilateral absence of the sigmoid sinus. We know of no means by which this anomaly may be diagnosed before operation. As will be shown this variation may be explained on the basis of an embryologic maldevelopment of the intracranial venous channels. Although in the specimen we examined in the dissecting room the temporal bone showed evidence of infantile conformation, we doubt if the x-ray could be put to practical use in disclosing such occasional abnormality.

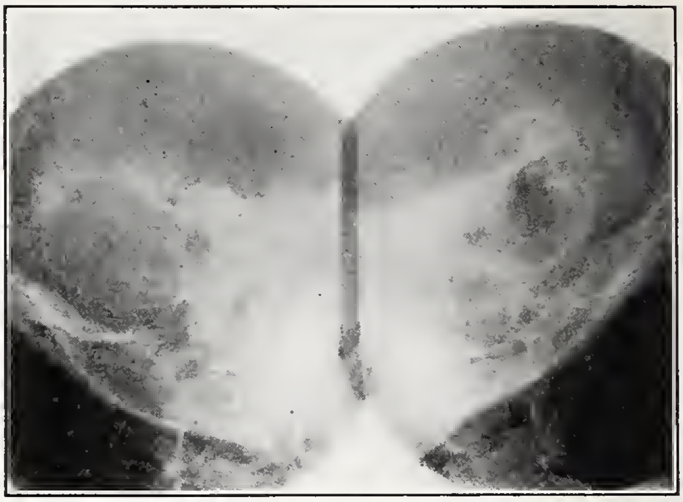

Fig. 4.—X-ray of mastoids taken after right mastoidectomy. (Sigmoid sinus not found.) Note the rather large circular area in the operated region, just below the sulcus for the lateral sinus. This may represent a large mastoid emissary. Compare the x-ray of the right mastoid in this figure with the specimen shown in Figure 3 and note the suggestive similarity in the two.

The x-ray has its limitations even in the ordinary run of cases. Haymann states: "Attempts to delineate the course of the sinus before operation by means of topographical measurements or the roentgen ray are useless and unnecessary. The former is almost of no account because of the normal variations in its course and the latter is equally nonproductive of accurate results." [9]

In this connection our only practical advice is that the otologist keep in mind the possibility of this abnormality. How frequently otologists have failed to find a sigmoid sinus we have no way of knowing, as we have seen only one allusion to such experience in the literature. When the possibility of this occurrence is more generally recognized, doubtless more such cases will be reported.

Another practical consideration in this connection is to be found in the case in which there is marked narrowing or absence of the sigmoid sinus and internal jugular vein on one side, and ligation of the opposite internal jugular vein is undertaken. This may produce marked circulatory disturbances in the brain or even death. Braun [10] quotes Rohrbach, Linser, Kummer, and Stolz as each having reported one such case. Rohrbach reported a case where the left internal jugular was ligated during an operation for carcinoma on the left side of the neck. Following the operation the patient became comatose and died six days later. The case came to autopsy and showed a right sigmoid, which admitted only a small probe. The patient had died from the effects of interference with the cerebral circulation.

The possibility of such occurrences has been offered as an objection to jugular ligation in the surgical management of sinus thrombosis. That this objection is only theoretical is shown by the reports of several cases in which it was necessary to ligate both jugular veins and the patients recovered. The circulation under these circumstances can be carried on by the collaterals. Hastings[11] recently reported such a double ligation, the two being done seventeen days apart. The experience of one of us several years ago may also be of some interest in this connection. While doing a mastoid operation on one side, the sigmoid sinus was accidentally opened. One month later, the other mastoid required operation and the same accident occurred on this side. The patient suffered no ill effects.

In the past year, two authors have stressed the rôle played by thrombosis of the mastoid emissary vein in explaining cases of aural sepsis in the absence of demonstrable thrombosis of the sigmoid sinus. Hybasek[12] has shown how this vein may become the seat of a primary thrombus in much the same way as it occurs in the lateral sinus, *i. e.,* by direct contact with a spreading infection or by a thrombophlebitic process originating in the smaller venules. Reversial[13] encountered a case, the patient having died of septicemia and metastatic pneumonia, in which the mastoid emissary contained a clot while the sinus itself was patent.

TREATMENT PROCEDURES

As regards the management of these cases we have nothing new to offer. We wish to emphasize, however, that of all the intracranial complications secondary to mastoid disease, sinus thrombosis holds forth, by far, the greatest chances for recovery following surgical intervention. As intimated above, we believe that some cases of otogenic sepsis predicated on the basis of an osteothrombotic phlebitis may get well under supportive treatment and blood transfusion. The frank case of sigmoid sinus thrombosis, however, without surgery, is nearly always doomed. For practical purposes we may disregard the occasional spontaneous cure which is noted in the literature.

The present is neither the time nor the place to undertake a discussion of the problems which present themselves in the operative management of this disease. Kopetzky's[14] attempt to divide cases of otogenic sepsis into two catagories, and his enunciation of the general principles to guide us in the management of each group appeal to us as worthy of reëmphasis and repetition.

In the first group of systemic infection, which accompanies the hemorrhagic type of mastoid disease, which frequently occurs simultaneously with the onset of the otitis media, and which may show no x-ray evidence of bone destruction or the usual clinical signs of surgical mastoiditis, the simple mastoid operation frequently is sufficient to remove the thrombosed venules in the mucosa and bony intercellular spaces, thus curing the sepsis. Laying bare the sinus wall may suffice for the present and further interference may well be omitted unless the thrombophlebitic process has already extended into its interior. Supplementing this treatment with blood transfusions, if necessary, will cure many of these cases.

In the second group the sigmoid sinus becomes the seat of a thrombus by contiguity, as a result of the extension of the inflammation and bony necrosis from the mastoid process.

First, the sinus wall becomes bathed in the products of inflammation and a perisinus abscess is formed. The sinus protects itself from the encroachment of this inflammatory process by throwing out granulations. Under favorable conditions and the eradication of the septic focus by timely surgical intervention on the mastoid, the disease stops at this point. Otherwise this is followed by a phlebitis of the sinus wall, perhaps with necrosis, permitting bacteria to enter and attack its endothelial lining. At this time all the factors favoring the formation of a septic thrombus exist. When clinical symptoms of sinus thrombosis have been present in a case which shows these findings at operation, no time should be lost in exploring the interior of the sinus, removing the clot and, if deemed necessary, ligating the internal jugular vein.

In addition to the above, may we add that high fever and some evidence of sepsis accompanying an otitis media is not necessarily a signal for immediate operation on the sinus. Delaying intervention for a day or two, until the diagnosis is more firmly established, is frequently rewarded by finding an improved patient. On the other hand, in no endeavor of our specialty have we experienced a greater personal satisfaction or feeling of genuine accomplishment than in those cases of sinus thrombosis which have recovered under surgical management, which otherwise would have ended fatally.

CONCLUSIONS

1. A case has been presented showing the classical signs of sigmoid sinus thrombosis in which, at operation, no sigmoid sinus could be found.

2. Following the eradication of an hemorrhagically inflamed mastoid the patient recovered, without further intervention, supporting the view that the sepsis was due to an osteothrombotic phlebitis of the small veins.

3. A specimen found in the dissecting room showing a unilateral absence of the sigmoid sinus has been presented in support of our contention that such cases may be encountered at operation.

4. The type of sigmoid sinus anomalies should be kept in mind while operating cases of sinus thrombosis.

5. The diagnosis of sinus thrombosis is to be made from the history and clinical symptoms rather than by a too rigid dependence on the results of special tests which have been devised. These tests are of greater value in determining the side for operation in cases of bilateral otitis media.

6. Blood cultures and blood studies, and especially the Schilling count, are of diagnostic and prognostic aid and should be utilized.

7. Although a panicky attitude at the first rise of temperature in the course of a suppurative otitis media is to be deplored, surgical intervention in properly diagnosed cases of sinus thrombosis is productive of brilliant results.

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WEIGHT REDUCING DIETS

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Discussion *by Roland Cummings, M. D., Los Angeles; W. D. Sansum, M. D., Santa Barbara; H. Lisser, M. D., and H. Clare Shepardson, M. D., San Francisco.*

In the haze of methods commonly employed by the public for effecting a decrease in weight, the fundamental relationship existing between basal metabolism and nourishment intake has either often been overlooked or relegated to a very secondary place. The fact remains, as Jones[1] puts it, "Every form of obesity represents, in the last analysis, an increase of caloric intake over caloric output."

Proper exercise, helpful massage, glandular preparations, electric appliances—all undoubtedly occupy necessary places in the control of obese conditions. The caloric intake and its distribution continue to be, nevertheless, matters of extreme importance, not infrequently neglected by patient and physician alike. With this in mind, the writer suggests two diets which have been found both satisfactory to the patient and helpful to the clinician in instituting a successful regimen.

CHART I—DIET I

Morning—One cup (250 c. c.) coffee or tea with one tablespoon (15 c. c.) milk; one small slice (50 grams) or one and two-thirds ounces brown bread or one-half slice (30 grams) of white bread.

Forenoon—One small orange or one small apple or similar portion of other fresh fruit.

Noon—Two slices (250 grams or 8 ounces) roast meat; two portions (200 grams or 6 ounces) green vegetables boiled in salt; a little fruit; water.

Afternoon—One-half cup (125 c. c.) coffee with one tablespoon (15 c. c.) milk.

Evening—One slice (100 grams or 2½ x 3 x 1 inches) meat or a little chicken or fish; one portion (100 grams or 30 ounces) green vegetables; one-half slice of brown bread (25 grams or two-thirds ounce); one cup of tea, if desired.

Diet 1 (see Chart 1) is a modification of Umber's "Skeleton Diet." This yields approximately 900 calories, of which 365 calories is derived from carbohydrates, 360 calories from protein, and 175 calories from fat. The total caloric value is so low that any obese individual who follows it conscientiously will lose from two to five pounds within the first five days of treatment. Our first consideration in this diet has been the administration of an adequate, but not a superfluous amount of protein. The average American demands fifteen to sixteen grams of nitrogen for his daily needs, or, for example, between ninety and one hundred grams of protein food. We here have about ninety grams. Hunger is avoided by the "filling substances" present in the dietary and by the frequency with which food is taken. I have never had an individual who faithfully followed this chart complain of hunger. The five feeding periods should be strictly insisted upon, as frequent intake of even a small amount of nourishment relieves the "all-gone" sensation of which such people frequently complain, and simultaneously decreases the common tendency to overeat at the next regular meal. If coffee is not desired or advisable in the mid-afternoon, the tablespoonful of milk should, therefore, be taken just the same.

The usefulness of this diet apparently depends upon:

1. The low caloric value.
2. The adequate protein ration.
3. The specific dynamic effect of protein food.
4. The invariable loss of weight accompanying its use.

The diet is contraindicated in liver or gall-bladder disease, in heart conditions (for any length of time), and in advanced arterial degenerative lesions.

After prescribing such a diet the physician should see the patient sufficiently often to make necessary changes in it. One or all of the following findings may warrant an alteration in the original regimen:

1. Excessive weight loss.
2. A rise in pulse rate above ten per minute.

3. A drop in blood pressure of more than ten millimeters of mercury.

4. The presence of acetone bodies in the urine.

5. The presence of distressing symptoms, such as dyspnea, sense of oppression through chest, palpitation, etc.

Inasmuch as the protein of the diet is already properly adjusted, and inasmuch as fat deficiency is to be made up from the body's own stores, any change to be made in the diet calls for carbohydrate foods. So, should one or more of the above contingencies arise, the patient is given a list, such as that shown in Chart 2, with instructions to add one of the one hundred calorie items, or more, therefrom to his daily ration.

CHART 2.—LIST OF ONE HUNDRED CALORIE FOODSTUFFS

(Each portion here listed is the equivalent of one hundred calories.)

80 grams or 2½ ounces roast beef; 200 grams or 6 ounces oysters.
40 grams or 1⅓ ounces white bread, graham bread or rye bread.
20 grams or two-thirds ounce zwieback.
12½ grams or one-half ounce butter.
20 grams or two-thirds ounce swiss cheese.
25 grams or 1 ounce sugar.
100 grams or 3 ounces potatoes.
30 grams or 1 ounce rice, peas, beans, or buckwheat.
20 grams or two-thirds ounce flour.
200 grams or 6 ounces apples.
150 grams or 5 ounces apple sauce.
150 cubic centimeters or 5 ounces milk.
30 cubic centimeters or 1 ounce brandy or whisky.

It is sometimes wise to stress the avoidance of certain fat foods. Patients will in all innocence eat various forms of cheese, olives, fat fish, duck, goose, etc., thinking they are carrying out instructions to the letter. The appended list is a useful reminder. (See Chart 3.)

CHART 3.—LIST OF FAT FOODS

Cream, butter, most forms of cheese, oils, olives, chocolate, cocoa, nuts, potato chips, crullers, and doughnuts. Articles cooked in fats, yolk of egg, bacon and meat fats, fat fish and game.

The fattest meats are pork (including ham and sausage), salt pork, bacon, mutton chops, duck, goose, pate de fois gras, marrow and corned beef.

The fattest fish are butterfish, catfish, eels, salmon, shad, trout, turbot, and fish canned in oil.

The second diet to be mentioned (see Chart 4) obviates the necessity for careful weighing or measuring, makes no "between meal" demands, and is more readily obtainable by the business man or woman. I find it especially valuable where gallbladder and liver conditions are met, in conjunction with overweight. I know of no medical contraindications to its exhibition. This diet is so arranged that fruits are segregated from other starches, and that large quantities of starch are not taken in conjunction with the meat meal. The fruit breakfast eliminates the "mild jag," so common in America, which results from the mixture of fruit, cereals, toast, and eggs. The carbohydrate value of the diet is made up at the lunch hour, and the protein fraction completed in the evening meal, in conjunction with which an abundance of green vegetables and five and ten per cent fruits are allowable. The overweight individual with a host of digestive disorders will find himself materially benefited even by a short period of adherence to this dietary. Owing to the division of the day's rations into a fruit, a starch and a protein meal, specific limitation of amount is rarely necessary, but is easily carried out by placing a definite figure after every item mentioned in Chart 4.

CHART 4.—DIET 2

GENERAL PRINCIPLES:

Never Eat Hurriedly.—Chew food thoroughly. It is less harmful to omit the meal entirely than to eat rapidly, thus preventing the digestive juices from being properly secreted. A small amount, thoroughly chewed, satisfies more completely than three times the amount taken rapidly.

Eat Less of Fat and Starchy Foods.—It may be difficult to break the habit of starch and sugar eating, because improperly eating these foods generates alcohol in the digestive tract, giving a quiet "jag." Eat no pastries, and no fried food.

There should be a keen desire for food, so that even the thought of a dry crust makes the mouth water. At first you will crave food when there is a "faint" or "all-gone" feeling at the pit of the stomach, without knowing just what food you would like to have. This is not real hunger. Learn to *taste* foods and a much smaller amount will satisfy.

* * *

PART A—MENU

Morning Meal—One or two oranges (or juice); glass of milk or buttermilk (sipped); cup of cereal, coffee, kaffee hag, postum, etc., or cup of cambric tea in place of milk or buttermilk. (Formula for cambric tea: Hot milk, one part; hot water, three parts. A little honey or brown sugar, if desired.) No real coffee or tea.

Noon Meal—One concentrated starchy food (see food chart); one or two cooked vegetables; one raw vegetable; moderate amount of dairy (fresh) butter or oil (on salad); bread, as desired.

Evening Meal—Meat or substitute for meat (no red meat, no fried meat); salad of either uncooked fruits or raw vegetables. One or two cooked non-starchy vegetables.

PART B—FOOD CHART

Concentrated starchy foods:

Sweet potatoes
Artichokes
Dried beans (all kinds)
Cereals or any product made from whole grain and wheat
Peanuts
White potatoes
Bread (graham or whole wheat)
Lentils
Indian corn
Rice
Dried peas
Yams
Barley
Oats
Rye
Buckwheat

Uncooked fruits and raw vegetables:

Cabbage
Cucumbers (fresh)
Peppers (sweet)
Watercress
Blackberries
Gooseberries
Lemons
Nectarines
Plums (some varieties)
Tangarines
Carrots (grated)
Parsley
Cherries
Peaches
Persimmons
Figs (dried)
Limes
Oranges
Raspberries
Apricots
Onions
Tomatoes
Grapefruit
Mulberries
Prunes
Dates
Cranberries
Loganberries
Pineapple
Strawberries
Grapes
Huckleberries
Celery
Radishes
Apples
Pears
Raisins

Cooked non-starchy vegetables:

Beet-tops
Carrots
Egg plant (do not fry)
Peas (fresh)
Asparagus
Beans (green)
Celery
Okra
Pumpkin
Beets
Cauliflower
Green corn
Onions
Squash
Spinach
Turnip
Swiss chard
Brussels sprouts
Tomatoes
Rhubarb

Meat and meat substitutes:

Cottage cheese
Sea food
Game
Eggs
Dried peas
Whole wheat products

Desserts—Not recommended. If used, take in moderate quantities and remain within limits of following:

Raisin bread made with whole wheat flour is cake enough for any normal, unspoiled appetite; this should be eaten in combinations given for bread.

Any of the fresh fruits or dried fruits may be taken with the night or "meat meal," preferably not sweetened. You should use honey or brown sugar or maple sugar. Custard and junket may be added to a meal of fruit and dairy products, provided they have been made with honey, maple sugar, or brown sugar.

These two diets afford the general practitioner a successful office routine for handling his overweight patients, provided the patient's confidence in him outweighs the urge of appetite and whim; for, the physician who attempts the handling of such people must never forget the all-important query put to rhyme by Owen Meredith:

"We may live without books, what is knowledge but grieving,
We may live without hope, what is hope but deceiving,
We may live without love, what is passion but pining,
But where is the man who can live without dining?"

450 Sutter Street.

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DISCUSSION

Roland Cummings, M. D. (523 West Sixth Street, Los Angeles).—The subject of obesity is being clarified. I agree with Doctor McGavack that to lose weight it is necessary to have the inflow of energy less than the outgo. That is a simple statement, but many times is a thing that is accomplished with great difficulty.

The reduction of the hypothyroid type of obesity and the reduction of the obesity of hypernutrition are very simple problems, but the reduction of the common type of obesity, the girdle type—or so-called "pituitary obesity"—is very difficult. Pituitary obesity is improperly named, because beyond a reasonable doubt this is not pituitary obesity at all. This type of obesity is probably due to a disturbance of the portion of the brain situated between the third ventricle and the pituitary gland. So far as I know, nobody understands why a disturbance in that region produces this obesity or anything specific to do for it. Why is it, in a patient who has this type of obesity, that the skin about the girdle, when grafted on the back of the hand, will become obese in that area so that there will be obesity of the back of the hand?

Many of these patients with this type of obesity will not lose in weight on a diet of one thousand calories. I am satisfied that many of them will not lose in weight unless their diet is below five hundred calories a day, and then they lose the weight from all over the body in the same proportion as they do from the hips. They will become emaciated about the chest and neck while they are still obese about the hips. To me, this type is the big problem in obesity and until we learn more as to its specific cause I fear we will not be able to treat it very satisfactorily.

It seems to me the ideal dietary principle to use in obesity after one finds out the maximum amount of calories an individual can be permitted to take, is to build up a diet that contains about 25 per cent more proteid than is necessary for nitrogen balance, the remainder of the calories being carbohydrates as far as possible, placing only enough fat in the diet to make it palatable, as the object is to get the patient to eat his own fat.

In general, I would agree with Doctor McGavack's ideas and I think he has quite simplified the matter, which is a very important thing in the treatment of obese patients. The frequent feeding is a splendid point, as such a great percentage of the patients who cannot lose unless their diets are under five hundred calories feel so weak and faint when they are cut down to that amount that they won't stick to a diet, but by taking very small amounts frequently, they will come nearer to living on a diet that is low in calories than in any other way.

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W. D. Sansum, M. D. (317 West Pueblo, Santa Barbara).—The reducing diets which we use are also fairly high in calories. They contain more carbohydrate and less fat. The following formulas individualized for each patient are most frequently used:

800 calories—C-90 P-65 F-20
1000 calories—C-125 P-70 F-25
1200 calories—C-160 P-75 F-30

The eight hundred calorie diet is used only in the beginning or when patients must necessarily remain in bed. On leaving the hospital we rarely ever use a diet lower than one thousand calories.

We agree that an adequate amount of protein is essential, but calculate it according to individual requirement, using one gram per kilogram of the average of actual and ideal weight. We have had patients gain in weight while taking an eight hundred calorie diet containing forty or less grams of protein and had them lose satisfactorily in weight on a one thousand calorie diet containing adequate protein. Patients very frequently gain in weight while starving and while taking diets as low as 250 to 500 calories. We believe that this gain in weight is due to an increase in the water content of the body incident to the protein starvation.

We have never observed any ill effects from the mixing of carbohydrates, protein, and fats in the same meal. Very little sugar as such can be used on these limited diets, which applies also to honey, brown sugar and maple sugar of nearly equal caloric value. We use real coffee and tea.

We find that when patients fully understand that life is shortened by overweight they are much more willing to coöperate than when they center their attention only on the problem of good looks. We therefore acquaint them with the dangers of overweight, which are summed up as follows:

Prominent life insurance companies have collected some comprehensive statistical studies which demonstrate the risk of obesity from an insurance viewpoint. These show that for each pound a person is over or underweight the expectancy of life is decreased by one per cent. For example, a woman forty years of age, five feet six inches tall, should weigh 138 pounds dressed. Her expectancy of life should be twenty-eight years. If, however, at this age she weighs 188 pounds, that is fifty pounds overweight, she can expect to live only fourteen years longer. Instead of living to be sixty-eight years of age she can expect to live to be only fifty-four years of age. Life is shortened by obesity probably because of the many diseases which accompany it. Some of these are:

1. Enlargement of the heart. The heart must enlarge to carry the burden of excessive weight.

2. Increased blood pressure. Each pound of excess weight requires approximately one extra mile of small blood vessels. Increased pressure is necessary to carry the blood through this extra network of blood vessels. As the blood pressure rises, further enlargement of the heart is necessary to perform the additional work required.

3. Predilection to diabetes. Overweight is so commonly followed by or associated with diabetes that leading authorities consider it to be one of the most important factors in the cause of this serious disease.

4. Lowered general body resistance. The general body resistance is usually lowered in the presence of overweight so that obese people are always more susceptible to such common diseases as pneumonia, and when such diseases appear the prognosis is always more grave than in the presence of normal weight.

5. Increased surgical risk. Surgical conditions such as gall-stones occur more frequently in overweight persons. If surgery becomes necessary in obese individuals the surgical risk is thereby increased so much that surgeons hesitate to perform operations.

⁂

H. Lisser, M. D., and H. Clare Shepardson, M. D. (204 Fitzhugh Building, San Francisco).—As we have stated before on more than one occasion, "there is no royal road to reduction," whether it be by such common-sense diets as Doctor McGavack finds satisfactory or by any one of the never-ceasing weird diet cures, a new one of which has its vogue for a few months every year or so. Included in this sweeping statement are other fads as, "losing in the bathtub" by some miraculous salt; victrola cures, roller cures, or gland cures.

We thoroughly endorse the points brought out by Doctor Cummings in his discussion. Our experience substantiates his contention that a goodly number of obese individuals require severely subcaloric diets to effect even a moderate weight loss. To many who cling to the law of the conservation of energy, such a statement seems incomprehensible. Nevertheless, we insist that this holds true, at least in a respectable minority, at the same time admitting that we can offer no explanation for the metabolic abnormality responsible for this queer state of affairs. In this connection the experience of Mason at McGill University may be referred to, who found it necessary in certain instances to restrict the caloric intake to the pitifully low ration of 250 to 300 calories per day, and offered the suggestion that the underlying disturbance was probably an alteration in the specific dynamic response to protein, fat, or carbohydrate.

A basal metabolism estimation at the outset, and preferably more than one, should be a routine procedure before instituting any variety of reduction therapy. Although the majority of obese persons will be found to have a normal rate, a surprisingly large percentage will fall in the range of 8 to 25 per cent minus, and many of these patients would not be suspected of hypothyroidism either from symptoms or appearance. The proper use of glandular therapy in such patients is obviously indicated and highly beneficial; nor should organotherapy be restricted to those obese persons who have a subnormal basal rate. It is hardly necessary to add, however, that all patients undergoing a reduction regimen, whether it be by diet alone or with the addition of glandular therapy, require frequent observation and control.

From a practical standpoint the most important facts in planning a diet designed to assist in reduction of weight are simplicity and adequacy. The condition is, after all, a chronic one, rarely, if ever, cured. Therefore there is little justification in diets which are so radical that they cannot be continued over a long period of time. Very few obese individuals will "count the calories" year in and year out. To this extent they differ from the diabetic patient, who must do so to preserve life and health.

Doctor McGavack is to be commended for calling attention to this important subject, and his diets have the merit of simplicity and adequacy. Our experience would lead us to forecast that these diets will prove satisfactory in 40 to 60 per cent of cases.

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Doctor McGavack (Closing).—One is frequently confronted by the overweight individual with such expressions as these: "I am sick of weighing my diet"; "I just cannot stay on any diet without being unendurably hungry"; "Wouldn't it be all right for me to try one of the advertised reducing foods?" and so forth. Therefore it has been my desire to present here diets for obesity in a form easily applicable by the physician and reasonably pleasing to the patient. As Doctors Lisser and Shepardson have well said, "there is no royal road to reduction"—no possibility of legerdemain transformation, as it were. However, if the physician is to steer his patients away from every new fad and fancy, he must be in a position to present measures aimed at a correction of the primarily abnormal relationship between intake and outgo of energy.

Undoubtedly, the whole subject of overweight and its treatment is a highly specialized field of importance, but it is not always practicable to place the patient in the hands of one especially trained. With ordinary diagnostic acumen, hypernutritional, hypothyroid, and "girdle" types of obesity may be differentiated. Needless to say, proper organotherapy should be instituted, and in hypothyroid cases that alone is usually sufficient to correct the overweight. In the hypernutritional type, diet alone may be sufficient, though I heartily agree with Doctors Lisser and Shepardson that here, too, organotherapy, properly controlled, is a useful adjunct.

In the "girdle" type of obesity, I have found—in a very limited experience—that immediate weight decrease is the rule from the exhibition of Diet 1. Usually this initial loss is regained, until, at the end of from ten to sixteen days, the weight may have returned to the original figure. Newburgh and Johnston have recently discussed this subject at some length. They have shown that the water retention periods are followed by weight losses commensurate with the degree to which the diet is below the required caloric value. Therefore, if the patient has been seen during the period of temporary weight decrease, much has been done to gain her confidence, and the physician may be able to proceed in such a manner as to prevent her falling prey to every "fat cure" marketed.

What Doctor Cummings has said relative to the "girdle" or "pituitary" type of obesity, I fully endorse as too often true. In this connection it is well to remind ourselves that the very marked reductions of caloric intake utilized by Mason in his series of experiments resulted in comparatively great reductions in weight, the lowest figure recorded in the least obese of his subjects being forty-four pounds for an experimental period of sixty-three days.

Doctor Sansum's emphasis upon the ill effects of obesity serve as an invaluable aid in enlisting the enthusiastic coöperation of the patient. Such practical points cannot be overstressed, as they strike deeply into his or her consciousness and, in many instances, prove a greater incentive for reducing than the desire for a good cosmetic result.

Many moot and problematical points might be dwelt upon in connection with any dissertation upon nutritional disturbances. These have been studiously avoided by the writer as well as by those who have been kind enough to comment upon the simple diets above suggested. Rather have the latter added much to the clarity and practicality of the subject by stressing such points as the need for proper laboratory procedures before the institution of therapy, the importance of a clear understanding of his condition on the part of the patient, the value of frequent observation of the individual while under treatment, and the usefulness of proper adjunct therapy.

AN AID IN COLLECTIONS

By John Hunt Shephard, M. D.
San Jose

In these days many physicians are experiencing the unpleasant sensation of seeing their bills receivable mounting to unprecedented heights. Suggestion which will check the speed of their ascent, therefore, will be welcomed.

Some months ago we became interested in the installment payment system used by a department store, and worked out the forms herewith shown. The form on one side of the white card is an innocent-looking acknowledgment of indebtedness, though in reality it is a promissory note. The ledger ruling on the reverse side serves as a convenient ledger account, but the payments are also posted in our regular ledger. The salmon-colored card is of very durable quality, and is retained by the patient. It is presented with each payment for credit, thus constantly keeping the holder informed of the amount of the unpaid balance, and it acts as a permanent reminder of his obligation.

These forms are presented for signature at the time of dismissal of the patients, when their gratitude for services received is at its maximum. No attempt is made to crowd up the amount of the monthly payment, but rather an amount slightly

I hereby acknowledge my indebtedness to Dr. ...., for professional services rendered ...., in the amount of $......................, and I promise and agree to pay the same to Dr. .... (a) on or before .... (b) in monthly installments of $.......................... each, beginning on the .... day of ...., and to pay a like amount on the .... day of each and every successive month until the entire sum of $...................... is paid.

Date..................................

....
Name

....
Address

Chart 1.—Showing the text on the white card which is signed by the patient or person responsible for the account, and retained in the office. Printed on both sides.

Dr. ____________________

____

Received the following payments from

____

____

Date	Amount Paid	Balance Due	By

Chart 2.—Memorandum slip for accounts.

less than the patient thinks he can pay is inserted. This dispels any feeling of our attempting to drive a hard bargain, and when payments fall due the payor must acknowledge that he made his own terms.

If a payment has not been made within five days after it is due, a short simple letter is sent the delinquent debtor calling his attention to the fact and asking for prompt remittance.

We have met with practically no objections from patients when asked to execute these installment payment cards, if asked to do so at the time of their dismissal, but we have not met with much success when attempting to get old open accounts transferred to the installment payment system, which confirms a long-held opinion that prompt business methods are just as important to a doctor's success as to any business.*

Medico-Dental Building.

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* Editor's Note.—Apropos of the method described by Doctor Shephard, the printers of California and Western Medicine, The James H. Barry Company, 1122 Mission Street, San Francisco, have reprinted an article by the editor of California and Western Medicine, which appeared in the issue of September, 1927, page 398, and in which a collection plan devised by him years ago for members of the Los Angeles County Medical Association was explained. The James H. Barry Company print these outfits at a low cost and will be glad to send specimen forms to all members of the California Medical Association who make request therefor.

DR. ____________________

____

Received from

____

____

Date	Amount Paid	Balance Due	By

Chart 3.—The above is a salmon-colored card of very durable material and is kept by the patient and presented for credit receipt with each payment. It serves as a constant reminder of the amount of the balance due and the date of the next payment.

KEEP THIS CARD

Present this card with your monthly payment.

Date..................................

Payments due on the .... of each month.

Your monthly payment is $......................

The total amount of this contract is

$..............................

If payments are made by check or P. O. Money Order, make the same payable to

Dr. ....

....

Chart 4.—Both sides of card printed.

THE LURE OF MEDICAL HISTORY *

ESSAYS ON THE HISTORY OF EMBRYOLOGY†

By A. W. MEYER, M. D.
Stanford University

XI

PRODUCTION OF ABNORMALITIES

It seems that the elder Geoffory St. Hilaire was the first to attempt to produce abnormalities in incubating bird eggs. He coated half of the shell with wax but without effect and declared that it mattered not whether the eggs were turned, after the manner of the hen herself, but stated that setting eggs on end resulted in the development of abnormalities. Hilaire thought that this was due to failure of formation of the air space whenever the large end of the egg was put downward. This finding was contrary to that of Réaumur, who stated that the air space always forms on the large end of the egg whether or not it is placed uppermost. St. Hilaire, the elder, also stated that malformations would be produced by tearing the embryo during early development, but Leuckart, who repeated some of Valentin's experiments confirming Hilaire, found that dividing the blastodisk did not give rise to malformation but stopped development. Although Gilis declared that St. Hilaire "penetrated the mechanism of the formation of monsters" showing that they are due to arrest of development through adhesions, Panum thought Hilaire's work too fragmentary to enable one to form any idea of its significance. According to Gilis, Swammerdam and Hilaire both tried to produce monsters experimentally, but only Hilaire succeeded. The younger Hilaire shook hen eggs horizontally before incubation and declared that such agitation prolonged the incubation period. He also removed part of the egg shell, coated the shells and pierced them with needles, but apparently without effect.

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* A Twenty-five Years Ago column, made up of excerpts from the official journal of the California Medical Association of twenty-five years ago, is printed in each issue of California and Western Medicine. The column is one of the regular features of the Miscellany Department of California and Western Medicine, and its page number will be found on the front cover index.

† This is the eleventh paper of a series of essays on this subject. Previous papers were printed in this journal as follows: Part I, in December California and Western Medicine, page 447; Part II, in January number, page 40; Part III, in February number, page 105; Part IV, in March number, page 176; Part V, in April number, page 241; Part VI, in May number, page 341; Part VII, in June number, page 394; Part VIII, in July number, page 41; Part IX, in August number, page 111; Part X, in September number, page 184.

Panum, who made a very careful study of the occurrence of abnormalities in hen eggs before and during incubation, concluded that putrefying eggs are those that contain malformations. He undertook a carefully planned series of experiments to test this idea and to establish that malformations usually cause early death. According to Panum, "simple malformations" are more common in birds than in mammals, although he said that they were less common among birds than mammals among museum specimens. He found that eggs with a partly cracked shell would not develop if the crack was turned upward but that they would do so if it was turned downward, and declared that little was then (1860) known regarding the development of double eggs or of those with an "appendix."

It seems that Fremy and Valenciennes concluded that eggs with three or more yolks will not develop and that Jacobi (1765) stated that anomalies were more common in fish eggs which he attempted to fertilize artificially. Valenciennes found abnormalities more common in pike embryos which had been kept in too little water for seven hours, following artificial insemination. He found six such specimens in nine hundred and seventeen, all of them being accompanied by a single yolk.

Lereboullet (1852) also observed abnormal development in pike eggs which had been artificially inseminated, and all of which likewise were accompanied by a single yolk. Somewhat later he observed twenty-seven monstrosities in similarly inseminated fish eggs kept under unfavorable conditions. One of these had three heads and two trunks and hearts. Some of these instances of abnormal development were observed as early as the time of formation of the "Nota primitiva" or notochord, and all were found on single yolks. Lereboullet never observed fusion of embryos which had developed on double yolks. It is interesting that Coste (1855) also observed abnormalities in artificially inseminated fish eggs having noticed a hundred in four thousand carp and salmon eggs.

Because Liharzik (1858) had the idea that underdevelopment of the thorax was responsible for rickets and tuberculosis, he again investigated the effect of the position of the hen egg during incubation upon the course of development of the chick. He stated that when eggs were incubated with the large end uppermost, the head of the chick was smaller and the abdomen larger and the chick somewhat weaker, and declared that it remained so for some time after hatching. A reversal of the position of the egg was reported to have an opposite effect upon body form. When the egg was incubated in the horizontal position Liharzik claimed that the pressure of the trunk against the head resulted in compression of the thorax, but nevertheless concluded from his experience with forty-eight eggs that the horizontal position is the most favorable one. Liharzik's investigations confirmed those of Réaumur and contradicted those of St. Hilaire, who had stated that a horizontal position of the egg caused the development of abnormalities in the chick.

It is of special interest that a special commission was appointed in Denmark to determine the effect of irrespirable gases upon incubating eggs and that it found that development does not take place if the containers are tightly stoppered or sealed. Since it had been shown that development sometimes begins under warm water, it probably also did so in these cases unless the eggs were not incubated immediately after exposure to the gases.

Dareste (1856), who, according to Gilis, carried the art of producing monstrosities to a degree of perfection which was astonishing, found that varnishing the ends of eggs has a deleterious effect if done early in incubation, but not if it is done later on. He stated, that varnishing the large end resulted unfavorably in some cases because this treatment compelled the allantois to obtain relation with the shell in a nonvarnished area, and this he though was the cause of the abnormalities. Dareste also varied the temperature during incubation and placed the eggs in various positions, as others had done before him. It seems that Dareste was the first to try the effect of electricity upon developing eggs and found that induction shocks produce malformations. He also showed that incubating the two halves of the hen egg at different temperatures results in unequal growth.

Panum, to whom I am mainly indebted for the above account, also mentioned the experiments of Poseleger, who coated eggs with oil, glue, and collodium, but found that none of these agents affected the duration of the period of incubation, but that dipping eggs in wax prevented development altogether.

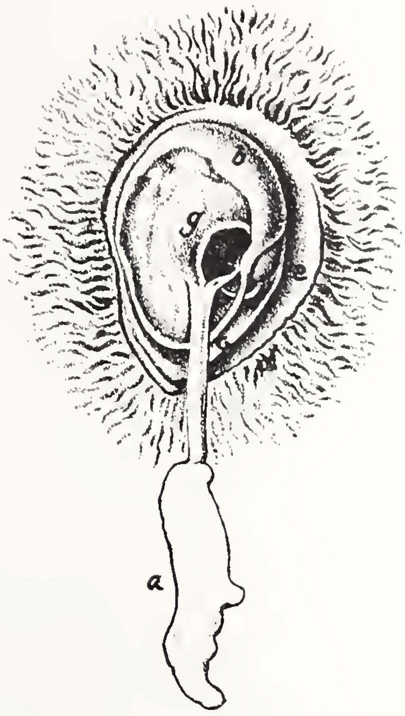

Fig. 7.—Human embryo with membranes, after von Baer, Table 4, Fig. 15. (a) embryo, (b) amnion, (c) serous lining, (d) chorion, (e) allantois, (g) insertion of umbilical cord. This is undoubtedly a retained macerated abortus (partly redrawn and relettered).

STUDIES ON FERTILIZATION OF THE OVUM

Soon after these earlier experimental investigations were made, embryology received more and more attention and much work was undertaken, especially upon the fertilization of the ovum. Some of these results were contrary to those obtained by earlier investigators with the hen egg. Morgan, for example, found that frog eggs when inverted gave rise to two embryos, and Hertwig found that amphibian eggs could be influenced to undergo meroblastic instead of holoblastic cleavage, and that keeping frog eggs in one to two per cent sodium chlorid solution retards development and frequently produces hemicrania and other developmental defects. Kolman by raising the temperature of eggs produced spina bifida, and others since then have produced a variety of abnormalities by changing the conditions of development such as the composition of the liquid or of the atmosphere in which the eggs were incubated, or by mechanical injury by puncturing, burning, and cutting or by rotation or exposure to radiations of various intensities and lengths. Anyone interested in the recent development of experimental embryology will find fascinating reading in Morgan's volume issued in 1927 and in a treatise on chemical embryology by Needham, published in 1931. For further information reference to the literature is indispensable.

Although Bonnet wrote to Spallanzani in 1781 saying that the mystery of fertilization was almost resolved, yet that mystery still faces us today. It is true that artificial insemination was done by the second Malpighi and that artificial fertilization was accomplished later on in some lower forms, but it should not be overlooked that even a full-grown "frog without a father," would not be the equivalent of one with a father. Although Boveri found that a portion of an ovum devoid of a nucleus can be fertilized by a spermatozoön and that development can thus be initiated and that separation of the first two blastomeres may result in the formation of an entire individual from each, these things are not possible in all forms and can only be regarded as being highly suggestive indications for future work. It is highly improbable that it will be possible to substitute chemicals for the spermatozoön until the chemistry of the gene is fully understood, and that lies far in the future indeed.

As long as we shall remain ignorant of the true nature of the processes of development, we shall be compelled to add to the long list of words, "the mystical host," as Whitman called them, to designate hidden forces. In this list belong the first psychical causes or "psychic arche" or Aristotle; the archeus of Paracelsus; the impressio idealis of Harvey; the vis corporis essentiales of Wolff; the forcé expansiv or vis productrix of Needham; the nisus formativus of Blumenbach; the contactum vitalem, the virtue formatrix, and similar expressions of others. If such expressions as these are not used with an air of finality and are not permitted to become what Hertwig called "Ruhekissen," little harm is done. Even in the present day we speak of determinants and organizers. Although new terms are necessary to express a change in our point of view, all such expressions will possess only an historical interest in the near future.

Experimental embryologists working on lower vertebrates have done a very large amount of work since Roux began his important investigations on the mechanics of development and founded his well known Archiv. Many surprisingly interesting things have been revealed by this work, but no one can be at all certain as to how far the denoument peculiar to these very labile lower vertebrates typifies that in the higher. In the latter, experimentation is beset with much greater difficulties. It is natural that the chemical aspects of development are receiving an increasing amount of attention in these days of great interest in chemistry and that the physiology of reproduction also occupies an unusually prominent place in modern biological investigations. It is probable that a better understanding of abnormal development will come through experimental morphologic and chemical studies, although they can only be undertaken intelligently after the possession of detailed knowledge of normal development. This could only fail to be true if structure and function were not indissolubly joined; if not every functional change had a morphologic basis; if man could think without a brain.

STUDIES ON HEREDITY

One phase of embryology which has been developed so extensively by Morgan and his coworkers is of particular significance and importance to the physician. I refer, to be sure, to the work on heredity, regarding which even recent graduates in medicine are quite uninformed. This is highly regrettable and bound to entail personal and social disadvantages of a very serious kind. Although no one has yet seen a gene, anyone who stands in the rôle of personal or public advisor on health can no more act wisely without a knowledge of heredity than if he be ignorant of hormones or vitamins, yet this fact has received but slow recognition even in our medical schools.

IN CONCLUSION

It has not been my aim to bring the history of embryology up to our day. So much has been accomplished in the last two generations that the review of this portion alone would be a considerable task and also one full of pitfalls. Although we know the history of the development of only a relatively few forms thoroughly, no one can encompass the entire field of embryology at present. Nor was it my aim to give the complete history of early embryology even. For that America lacks some of the indispensable literature.

I used the essay form because it permits greater freedom and have followed the chronological order in the main, but confined myself almost entirely to vertebrate embryology. I took little account of the philosophers and metaphysicians. There was enough speculation among naturalists, and the history of embryology shows that speculations regarding development approximated the truth inversely in proportion to their elaborateness. Observation and experiment always have accomplished more.

Imagination never has been able to fill gaps in our knowledge and has proven an unsafe guide. Narrowing the wide horizon of the unknown has been and can be accomplished only through observation and experiment. Although ultimate causes have eluded us, it often has been possible to learn something about how things happened even if not why they happened, and this probably will long remain true.

I have tried to convey something of the spirit of the older investigators by permitting them to speak for themselves. This could be accomplished only by quotations. Except for minor changes and some additions, these essays represent a series of lectures given for a half a decade, as an introduction to mammalian embryology. Many other topics could, hence, have been chosen and those considered could have been dealt with at greater length. I have deliberately avoided making a detailed analysis of the contribution of different investigators, for this could not be done without the introduction of many details of interest to the specialist only, and these essays are not intended for him.*

Department of Anatomy, Stanford University.

(The end)

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* Editor's Note: Complete list of references will appear in the reprints.

The First Appendectomy.—Prof. Hermann Kümmell, surgeon of Hamburg, celebrated his eightieth birthday May 22. Kümmell was the first surgeon in Germany to perform the well known appendix operation (in 1889). He likewise pointed out ways for the elimination of cancer, for combating tuberculosis, and for the recognition of unobserved injuries of the spinal column. His researches have aided also in the spread of antisepsis and asepsis. He devoted himself primarily to surgery of the abdominal cavity and to disorders of the kidneys and of the urinary system. The handbook of surgery published by Kümmell in collaboration with Bier and Braun is known the world over.—*Journal of American Medical Association,* Vol. 99, No. 3.

SOME MEDICAL EXPERIENCES IN PERSIA

BEING A COMPILATION OF LETTERS FROM THE LATE JOSEPH W. COOK, M. D.

LETTER II*

A TRIP TO NEHAVEND IN LOORISTAN

Written at Hamadan, Persia,
The American Hospital.

It is interesting that in Persia every city or district is known for a certain characteristic. Isfahan, they say, is noted for the ability of its inhabitants to pull the wool over the eyes of prospective purchasers. Thus, Nehavend, where as I have said we went in May, is notorious for its miserliness. It is a city of some 16,000, of whom 1000 to 2000 are Jews. Nehavend is extremely rich in opium and tobacco, the opium in great demand for its high morphin content. But I never saw such terrible poverty; even the wealthy look poor and I saw no fine homes; the wealthy seem not to be willing to spend their money nor to know how to enjoy it. The city's curse is opium; 90 per cent of the population is addicted to it, they say, and without overstatement I fear; certainly the majority of my patients acknowledged their use of it. I did seven cataract operations, one iridectomy, fifteen hemorrhoid injections, twenty-five intravenous injections of typhoid vaccine for various conditions, fifteen neosalvarsan injections, two cauterizations for corneal ulcers, fifteen private calls, and saw 1933 patients during that week. It was very difficult to keep one's equilibrium. At 7 a. m. the sick would begin to come; scores of well-to-do were turned away for refusal to pay the examination fee; at the same time literally hundreds of poor people were seen and treated. Never have I seen such filth and such rags and such poverty, but behind them all I could see good faces and even some beauty. The women were interesting, rather longish faces, brown hair, gray-blue eyes, good features. But about 80 per cent had bad eyes, mostly trachoma so bad as to require weeks of persistent treatment to effect any sort of improvement. Fully 60 per cent had malaria or its effect; very few had anything that I could really help, but oh, the frantic passion to be examined and, as they hoped, cured! The crowd milled around the door, actually fighting for a chance to come in. It was hard, in such confusion, to make proper examinations. Suppose you had several children with chills and fever, or very bad eyes, no money to buy medicines even if you knew what to use; or suppose you had lost eight or ten children unborn and knew you would be thrust out by your husband, or perhaps had never had a baby and had already been thrown out by several husbands; or your husband was sick, even dying, and no one able to help; or you as a father were sick, unable to work, and four or five children starving?

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* Letter I of this paper was printed in the September issue of California and Western Medicine, page 187.

One day a poor boy of fifteen came, suffering from painful swollen bones, the cause of which was uncertain. I decided to give him an injection of neo-salvarsan and told him to come in the morning. He mentioned that he had a blind and crippled grandmother. I had him wait, and after the dispensary walked with him to his home, on the way passing over the cavern where, twenty years before, a rich treasure of royal goods was found. His house was close to the ruined citadel where Yezddegird had lived in all his splendor before Omar overran Persia some 1300 years ago. The ground floor was used for donkeys, cows, and sheep; the second floor for one-room apartments; and up in one corner was a third story with a narrow porch; in a small room I found a poor, old, crippled woman, blind in both eyes; one had a none too hopeful cataract. I told the boy to bring her the next morning. On the way back I found an old man begging; I stooped to look at his eyes and found a beautiful cataract; I begged him to come and let me operate on him. "No, no!" he cried out, "I've tried it and—no good. My other eye was operated on and ruined, and I suffered too much." Some two or three days later he appeared; but when told he would have to have a friend to care for him a few days, he said it was impossible, as he had no friend, and no place but a bath or hammam in which to stay.

A mother brought her baby of 1½ years, pale and anemic; she said that it had been very sick ever since the cat had eaten the baby's hand off. It seemed that about a year before a cat or wildcat had killed two or three children within the city, had eaten the arm of one and the hand of this baby.

A man showed me his face, with a patch of paper over the root of the nose. There was a bad scar down the side; the patch covered two holes into the ethmoid sinuses, opening right into the skull. A year before, in the mountains of Looristan, a big bear had embraced him and bitten his nose, just missing his eyes. How he got free I cannot understand.

Not a day passed but two or three of the four leading local doctors, all Jews as usual, sat with us as we examined and prescribed. In all my trips I have never found such good doctors, men so anxious to learn. I took every occasion to reassure the people that they were lucky to have such good doctors.

One evening I was recommending the very latest Boston treatment for sterility by use of duq, the Persian substitute for Bulgarian bacillus culture, when one of the doctors said: "Isn't it curious that among the Loors whenever mares are sterile they use this same treatment, with almost universal success?" I confess I was surprised, and wondered whether the Boston specialist had got his idea by chance from our Loorish friends.

Nearly all the well-to-do suffered from the usual Persian malady of bavasir or hemorrhoids, for which I find the injection of phenol in glycerine almost miraculous in its curative properties. In any case it makes for us many friends because of its simplicity. One day three big, green-turbaned men, all descendants of the Prophet, were sitting in the dispensary, all suffering from this complaint. Waiting for the instruments to boil, I ventured to remark, in reply to a statement that one had made, that this work was of God and was just such work as Jesus had approved, and that the passage in the New Testament that appealed to me most was, "Inasmuch as ye have done it unto one of the least of these, my brethren, ye have done it unto me." They all agreed. The leader, Haji Agha Yeddullah, hesitated, however, to acknowledge that God could live in us, but admitted that this Spirit was something we couldn't understand. I asked them why they did not start some such dispensary work in connection with their mosques. The reply was rather vague.

After seeing 1933 patients in less than a week, overwhelmed and exhausted, I returned to my family in Hamadan.

Sincerely yours,

Joseph W. Cook.

(To be concluded)

CLINICAL NOTES AND CASE REPORTS

CHORION EPITHELIOMA IN PATIENT SEVENTY YEARS OF AGE*

REPORT OF CASE

By William R. Dorr, M. D.
and
Oran I. Cutler, M. D.
Loma Linda

It has been observed a number of times that chorion epithelioma may occur in women fifty years of age, but the majority of cases are found in patients considerably younger.[1] While the condition undoubtedly is infrequent in patients as old as seventy years of age, it probably is of some practical importance to call attention to the fact that such a case has been seen.

REPORT OF CASE

Mrs. E. J. C., age seventy, a widow, entered the Riverside County Hospital on August 21, 1930, complaining of a bloody vaginal discharge of two months' duration, with some pain in lower left quadrant extending down into the leg. She also complained of indigestion and cough with some sputum.

The general physical examination was negative except some moist râles in chest and an enlargement of the uterus to about the size of a medium-sized orange. The blood pressure was 168/86. The urine

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* From the Riverside County Hospital and the Pathology Department of the College of Medical Evangelists.

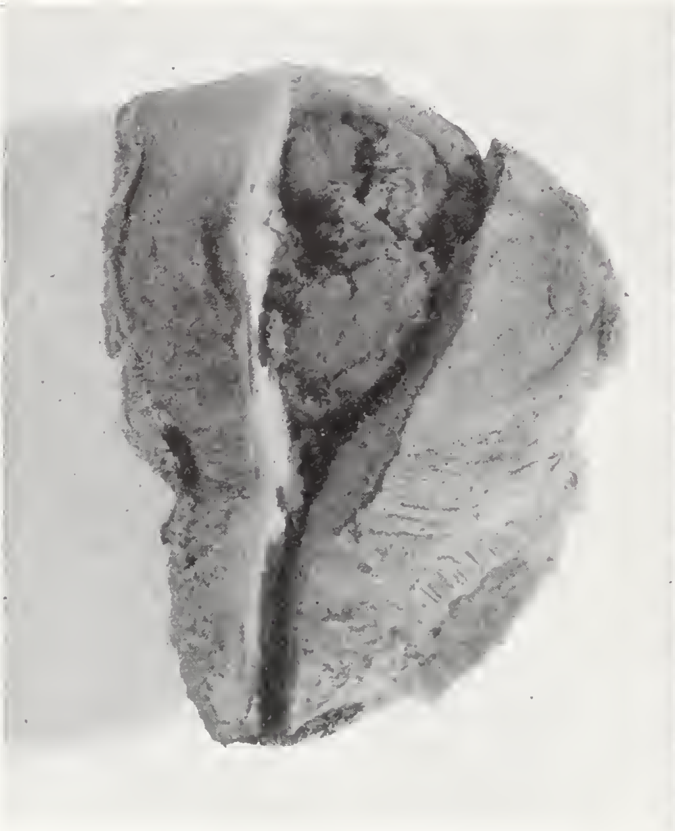

Fig. 1.—Uterus opened showing tumor distending the fundus.

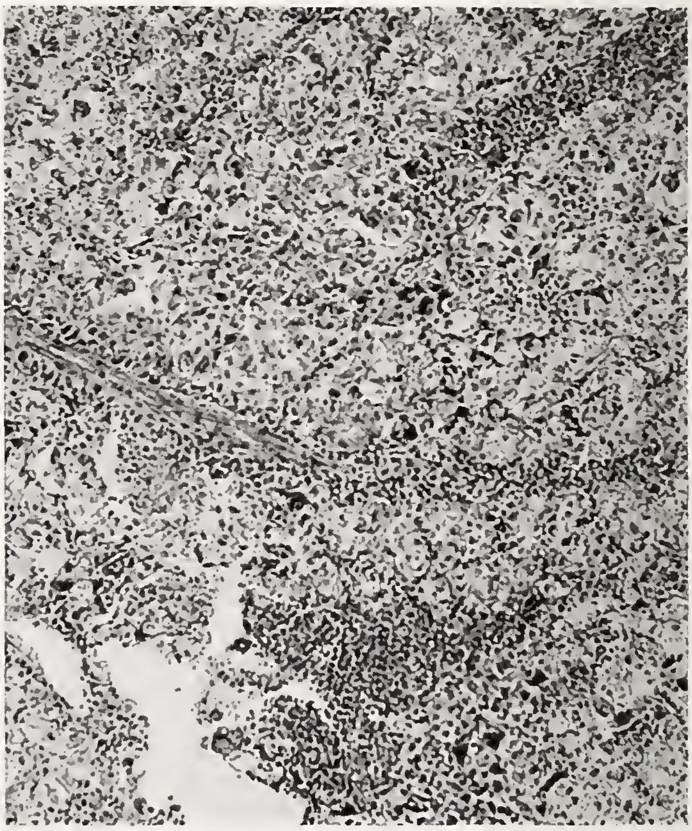

Fig. 2.—Microphotograph showing large pale cells of Langhans type and hemorrhage.

showed a trace of albumin and a few hyaline casts. No tubercle bacilli were found in the sputum. As a young woman the patient had malaria and typhoid, and had influenza thirteen years ago. Since that time she had been well until her present sickness.

The menses began at thirteen, and at first were scant and irregular. She had five children when 24, 26, 33, 38, and 40 years of age. All were full term, normal deliveries, with no abortions or miscarriages. The menopause began at forty-five years and ended at fifty-five years.

A diagnostic curettage was done by Doctor Felps, and on September 16 a hysterectomy was performed by Dr. T. A. Card. On October 18, 1930, the patient was discharged from the hospital in good condition after an uneventful but slow convalescence.

Pathologic Report.—An examination of the curetted material showed a number of coarse pieces of friable mottled reddish gray tissue. In sectioning the tissue, it was found to consist principally of solid masses of cells having clear cytoplasm and well outlined cells. The nuclei of the cells were round or oval and varied considerably in size. There were occasional nucleated cells having dark staining cytoplasm; most of these were less than twenty-five microns in diameter. The tissue was quite vascular, but there was very little fibrous tissue stroma. Necrosis, hemorrhage, and leukocytic infiltration were fairly prominent. The uterus measured 7 x 6 x 3 centimeters. The outline was distorted by the presence of a fibromyoma 2.5 centimeters in diameter which was embedded in the wall to one side of the fundus. The cervix was removed with the body of the uterus, and was narrow. The external os was a little irregular. The uterine cavity contained a soft, friable, hemorrhagic mass which was nearly round and measured 2.5 centimeters in diameter. The posterior surface of the mass was adherent to the uterine wall, but the anterior was unattached and was comparatively smooth.

Sections of the portions of the uterine wall not adherent to the mass found in the cavity showed a lining of thin endometrium containing a moderate number of small glands. The soft friable mass was composed of disintegrating blood-clot, shreds of fibrin and masses of tissue resembling that found in the curettings but too necrotic for positive identification in any of a number of blocks studied. At the site of the attachment of the mass to the uterine wall there was a layer of granulation tissue which was invaded by a number of projections of nearly completely necrotic tissue resembling that found in the other portions of the mass.

COMMENT

There is a relatively high incidence of chorion epithelioma following hydatidiform mole, but cases are not infrequently found following other pregnancies which have resulted in the retention of placental tissue in the uterus. Such tissue is retained following a certain number of normal deliveries.[2] Many times its presence is probably not detected, but in some of the cases which are complicated by infection or in which the quantity of retained tissue is large there will be definite clinical evidence of its presence.[3]

In the majority of cases the period during which the material remains in the uterus is short and the possibility of the development of chorion epithelioma is slight. An occasional instance is found in which portions of placenta tissues have been retained in the uterus for a number of years following the last pregnancy.[4, 5] It seems probable that the living chorionic cells which are present occasionally take part in the formation of a chorion epithelioma.[6] If this were true in the case of the patient here recorded, it appears that chorionic cells were retained in the uterus for a period of thirty years.

Loma Linda.

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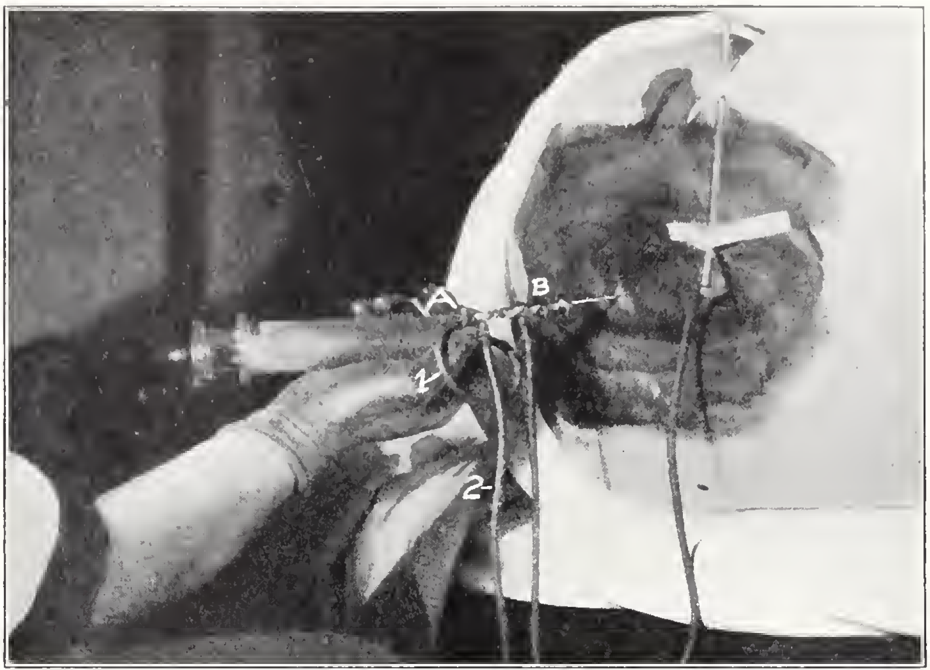

Fig. 1.—A and B are three-way valves fitted together and interposed between a 50 cubic centimeter syringe and the needle inserted into the patient's lumbar spine. Tube (1) connects the syringe to valve (A), allowing both to be steadied with the left hand; the right hand is then free to move the plunger and manipulate the valves. Tube (2) guides the escaping spinal fluid into a sterile graduate. The rubber U tube connects valve (B) with a manometer, strapped to the patient's back at any indicated level, and serves to keep air from disturbing the readings of the instrument.

SIMPLIFIED ENCEPHALOGRAPHY TECHNIQUE*

By Jules H. Masserman, M.D.
San Francisco

THE diagnostic value and comparative safety of encephalography have, in recent years, tended to make it an almost universally adopted procedure. Performance of encephalography with manometric control through a single lumbar needle has, however, hitherto been complicated by the necessity for frequent reconnections of the syringe and manometer, and by a tendency of air to distort the readings of the latter. In order to avoid these drawbacks the majority of recent writers have recommended the insertion of individual needles for the respective instruments, in the belief that the added discomfort and danger of infection was compensated for by the smoother technique.

The accompanying photographs illustrate a simple encephalography procedure developed on the neurological service of the Stanford University Hospital.

ADVANTAGES OF METHOD

Certain advantages of the method may briefly be summarized as follows:

1. The discomfort and danger of the patient is lessened, inasmuch as the necessity for double lumbar puncture is obviated.
2. Pressure-by-pressure air replacement of the spinal fluid is rendered possible through the availability of constant manometric control.
3. The entire apparatus may be boiled as a unit and none of the parts need be disconnected during the procedure, thus favoring sterility.
4. Encephalography is rendered possible of performance by a single operator, since no assistants are necessary to steady the manometer, collect the spinal fluid, etc.
5. The method can be universally employed, inasmuch as parts are available in almost every hospital, and the apparatus is easily transportable.

Stanford Hospital.

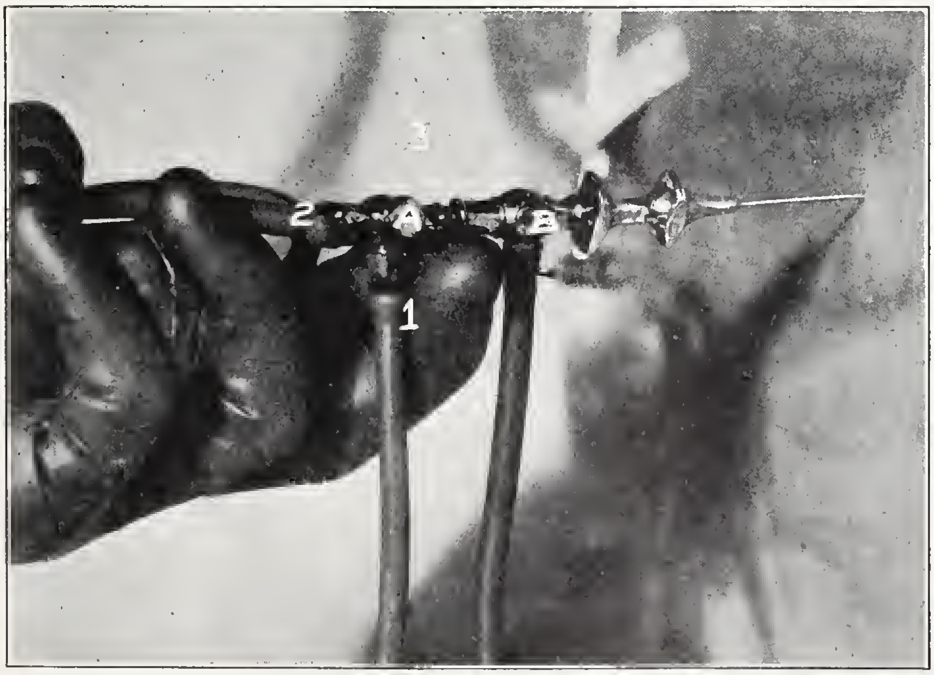

Fig. 2.—Illustrating technique. With valve (B) horizontal and valve (A) pointed downward (1), spinal fluid escapes into the graduate. When valve (A) is pointed up (3) air may be drawn into the syringe; with (A) horizontal this air may be injected into the spinal canal. Manometric readings may be obtained at any time by moving valve (B), so that pressure-for-pressure replacement is possible.

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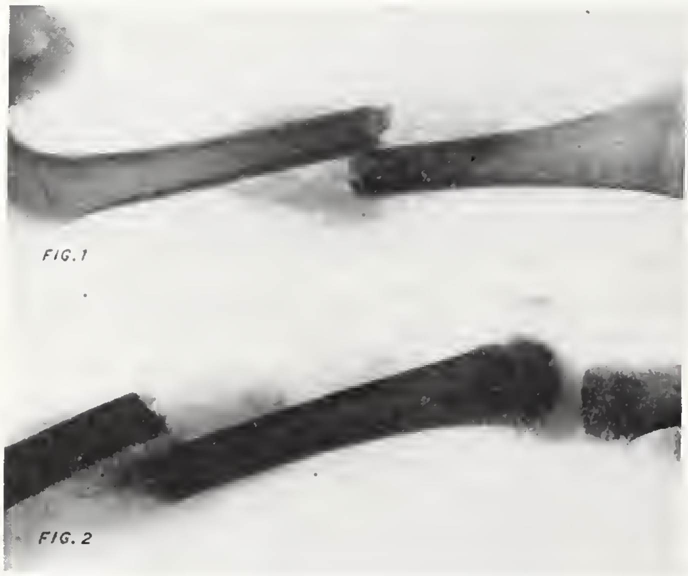
* From the Stanford Neurological Division of the Medical Department Service of Dr. Walter F. Schaller.

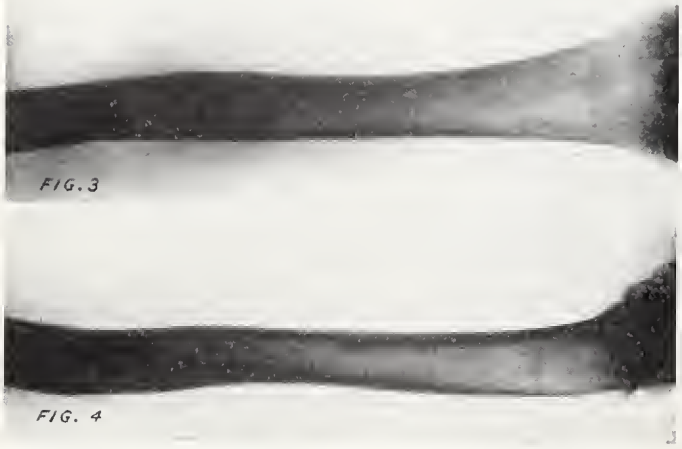
A COMMON ERROR IN SURGICAL JUDGMENT*

By Harold E. Crowe, M. D.
Los Angeles

FOUR times during the past year we have seen cases of femoral fractures in children under the care of good physicians. On each occasion the complaint was that an anatomical reduction of the fracture was impossible. One case had been treated with two types of traction apparatus in addition to three attempts at closed reduction under anesthetic. The parents were frantic because the bone was not set. The physician was worried because of his failure to produce what he felt was the required result and had called us to do an open reduction. At that time the fragments of the fractured femoral shaft were in contact, there was no overlapping and no rotation of one fragment on the other; the lateral x-ray showed a complete offset at the fracture line. In other words, the fracture was satisfactorily reduced. The principal mistake was in demonstrating the x-rays to the parents.



Figs. 1 and 2.—A. P. and lateral of result in reduction of a fractured femur, May, 1930. Further surgery was considered inadvisable because of skull fracture.



Figs. 3 and 4.—End result of case shown in figures 1 and 2, in March, 1932.

In general, it is a common error not to leave well enough alone. In particular this is true in fractures in the upper two-thirds of the femoral shaft in children under ten years of age. The x-rays presented show an apparently bad result in such a fracture. Follow-up two years later shows a perfect functional result, no visible or measurable disturbance of leg alignment or length, and x-ray results to satisfy the most apprehensive parents.

2417 South Hope Street.

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* From the Orthopaedic Hospital, Los Angeles.

COCCIDIOIDAL GRANULOMA—PRIMARY IN THE NASOPHARYNX*

REPORT OF CASE

By J. H. Childrey, M. D.,
and
P. A. Gray, M. D.,
Santa Barbara

THE number of reported cases of coccidioidal granuloma has increased considerably during the last few years. Bulletin number 57 of the California State Department of Public Health, published in 1931, contains data concerning 286 cases and includes a complete bibliography. The disease is known to attack every organ of the body except the intestinal tract. Lesions of the pharynx, however, are quite rare. Three cases have been recorded in which there was a retropharyngeal abscess,[1] each apparently a distal presentation of a lesion in the spine. Templeton[2] reported mycotic plaques of the pharynx in which the organisms were found. A careful search of the literature has disclosed no account of a case in which the primary lesion was in the nasopharynx. Such a case is reported here.

REPORT OF CASE

Mrs. D. B., aged 28 years, an American housewife, resident of Bakersfield, California, was admitted to the Sansum Clinic on August 13, 1931, complaining of cough, fever, and loss of weight.

For about a year she had noted a peculiar stuffiness of both ears and a slight impairment of hearing. During the past six months she had lost twenty-five pounds in weight. Four months before admission she had noted a tickling sensation in her throat. A month later she became "feverish" at night and two weeks later developed an almost constant productive tracheal cough, expectorating on several occasions "chunks" of blood-streaked tissue which resembled necrotic flesh. Night sweats had been present for a month before admission and for the past three weeks there had been definite elevation of the temperature each day. Six weeks before admission pustular skin lesions had appeared on the face, left forefinger, and back. A nose and throat examination by a specialist on August 10, 1931, was reported negative.

The family history was negative. The patient's two children were well. The past history was irrelevant. She had lived in California for the preceding ten years and had enjoyed good health except for frequent colds.

Physical Examination.—The patient was a pale woman, 5 feet 5¾ inches in height, weighing 132 pounds. Her skin had a subicteric tint and she coughed frequently. There was a nodular, ulcerated lesion at the outer canthus of the left eye and another on the left forefinger, each roughly two centimeters in diameter. There were several pustular nodular lesions over the trunk, shoulders, and chin. The anterior cervical lymph nodes were moderately enlarged but were not tender. A left preauricular lymph node was approximately 1.5 centimeters in diameter. The cardiac findings were within normal limits except for a rate of 128 at rest. The lungs expanded equally. Resonance was impaired over the left lower lobe; the breathing tones were increased, but no râles were heard. The abdomen was tender everywhere and the liver margin was palpable below the costal arch. The spleen was not palpable. The pelvis was negative save for slight tenderness of the left adnexa.

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* From the Sansum Clinic.

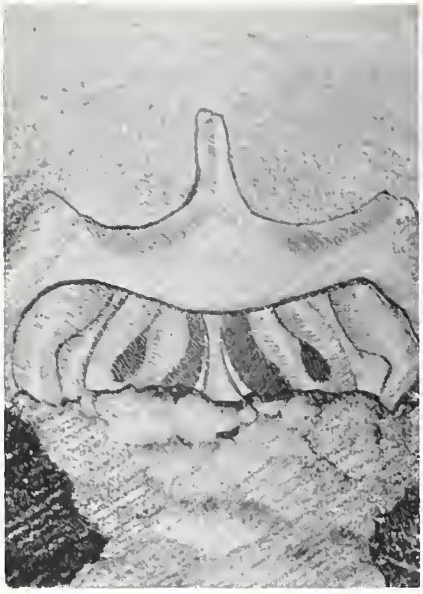
Fig. 1.—Sketch of lesion in nasopharynx. Posterior rhinoscopic view.

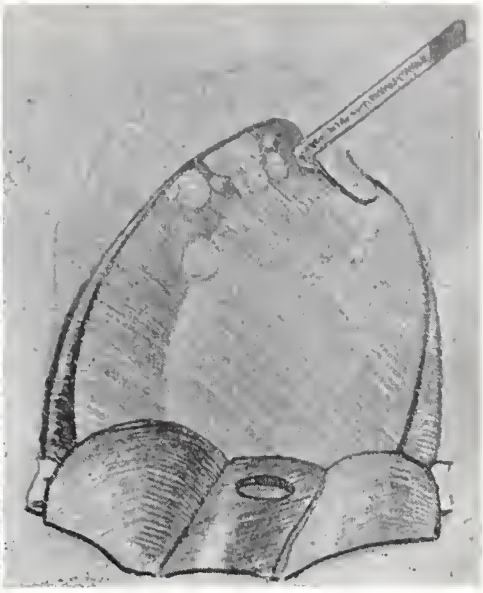
Fig. 2.—Sketch of lower portion of granuloma of pharynx.

The blood picture showed hemoglobin 60 per cent, erythrocytes 4,000,000, leukocytes 13,650, lymphocytes 42 per cent, polymorphonuclears 42 per cent, eosinophiles 15 per cent, basophiles 1 per cent. The sputum was repeatedly negative for tubercle bacilli. The patient's blood serum did not agglutinate with *B. typhosus, B. paratyphosis* A and B, *B. abortus,* or *B. melitensis.* The blood Wassermann and Kahn tests were negative. Urinalysis was normal. Stools contained no parasites. A roentgenogram of the chest revealed considerable thickening about the right hilus region and a questionable infiltration of the right lung at the level of the third interspace. The bony thorax was normal. The thickening of the mediastinum suggested a localized nontuberculous infection resembling coccidioidal granuloma. Smears from the pus of the finger lesion showed only staphylococci. Blood cultures were repeatedly negative. A roentgenogram of the gastro-intestinal tract was negative. The case continued to be acute. The temperature each afternoon rose to 101 to 103 degrees. The blood picture remained essentially the same, the noteworthy feature being the eosinophilia of from 8 to 15 per cent.

During the first month of observation there had been no nose or throat complaint. Examination made for acute coryza revealed a considerable amount of firm, nodular, granulomatous tissue on the vault and posterior wall of the nasopharynx (Figs. 1 and 2). The mass filled about half of the nasopharynx but did not obstruct nasal respiration sufficiently to be noticeable. Its surface was covered by tenacious mucus and was superficially ulcerated in spots. A tiny pustule could be seen on the posterior wall of the pharynx to the left of the midline. The ears, nose, tonsils and larynx exhibited nothing of note. Indirect laryngoscopy revealed more ulcerated granulation tissue in the trachea at about the level of the manubrium. The gross appearance of this lesion resembled that of blastomycosis as described by New.[3]

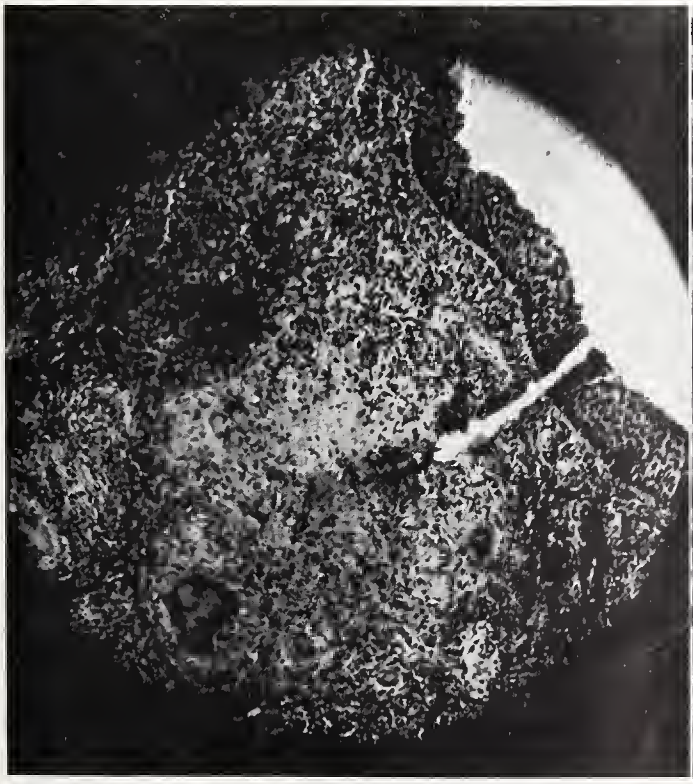
Fig. 3.—Biopsy material from nasopharynx X 100. Note tubercle-like granulation tissue, round and plasma cells, polymorphonuclear leukocytes and giant cells. Several typical organisms are visible.

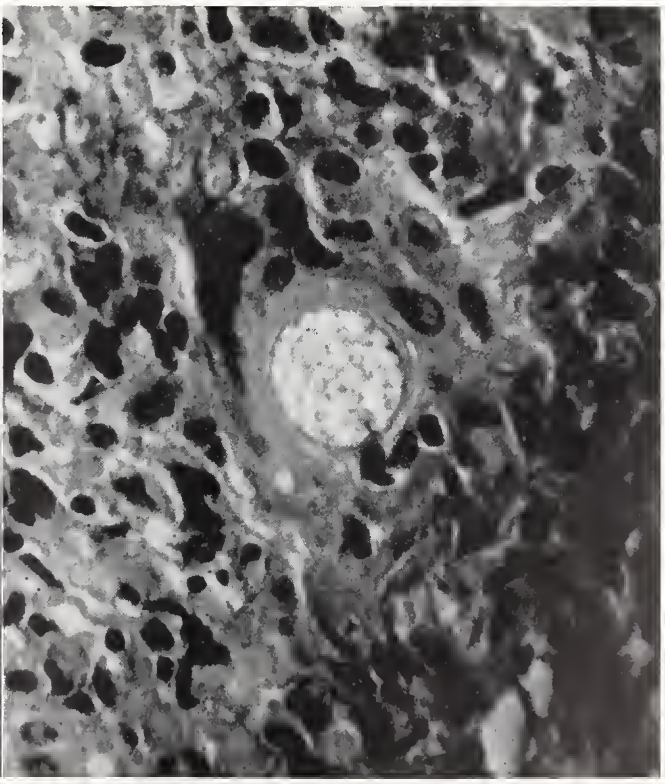
Fig. 4.—Biopsy material from nasopharynx X 425. Endosporulating organism within giant cell.

A centrifuged specimen of sputum treated with potassium hydroxid contained the typical endosporulating cysts of Coccidioides immitis. Renewed search disclosed these organisms in the pus from the finger. Biopsy of the lesion in the nasopharynx was obtained and the characteristic organisms were found. Later the organisms were cultured from centrifuged urine and from the blood. Cultures of the organisms obtained from the sputum were injected intraperitoneally into male guinea pigs and produced a characteristic orchitis and death in three weeks. The organisms were obtained from the lesions in the guinea pigs.

Treatment consisted in (1) the local application of one-quarter per cent copper sulphate solution to the skin lesions, (2) intensive deep x-ray irradiation of the chest and nasopharynx, (3) the peroral administration of saturated solution of potassium iodid to the patient's toleration, and (4) the intravenous injection of 1 per cent solution of antimony and potassium tartrate. At first there was a slight symptomatic improvement. The granulomatous tissue in the trachea regressed; that in the pharynx remained unchanged. After this initial improvement the clinical course was steadily down hill. The skin became pigmented, and six weeks before death rigidity of the neck developed, tendon reflexes became exaggerated, and paralysis of both external recti muscles appeared. Convulsive seizures and mental disorientation preceded coma. Death occurred December 8, 1931. Blood cultures taken the day before death were positive for coccidioides immitis.

Autopsy.—Dr. R. D. Evans, pathologist of the Santa Barbara Cottage Hospital, performed an autopsy. His findings were in part as follows: Besides the cutaneous lesions and that in the nasopharynx, there was generalized enlargement of the mediastinal, tracheobronchial and biliary lymph nodes. On the inferior surface of the diaphragm and the superior and inferior surfaces of the left lobe of the liver, there were fairly numerous miliary lesions. These were also visible on the cut surfaces of the liver and spleen. In sections of the liver, mesenteric lymph nodes, and tissue from the nasopharynx there were circumscribed regions of necrosis, characterized by round cell infiltration, polyblasts and giant cells, in which the coccidioidal bodies were seen. The latter were particularly abundant in the lymph nodes and tissues from the nasopharynx, and many contained endospores. No gross lesions were seen in the intestinal tract, brain or lungs.

DISCUSSION

The mode of human infection with Coccidioides immitis is still unsettled. The skin and the respiratory tract have been regarded as the chief portals of entry. The fungus has not yet been found in a free state in nature, but it is thought to grow as a saprophyte in the soil or on plants.* The spores have been known to remain alive for two years. Since they are light enough to float in the air, they may be disseminated in the dust. Ophüls [4] considered the inhalation of the spores of the greatest importance and claimed that in most all autopsied cases the primary focus could be demonstrated in the lungs. The skin is undoubtedly another important portal of entry as has been shown both clinically [5] and experimentally.[6] Jacobson [7] postulated the possibility of transfer through insect bites. Incidences of transfer from man to man and of infection of the alimentary canal are lacking.

In our patient the fact that aural symptoms had been noted for at least six months prior to the onset of the general symptoms and the finding of a large granuloma in the nasopharynx suggested strongly that the lesion in the nasopharynx was the initial one. The findings at autopsy seem to confirm this. The paralysis of the external recti muscles which developed before death might be ascribed also to the nasopharyngeal tumor because no gross lesions were encountered in the brain or meninges at autopsy. New [8] and Woltman [9] have already described symptoms of involvement of the cranial nerves by malignant growths in the nasopharynx. The many cases cited in the literature in which the cervical lymph nodes were found abscessed suggest that these cases may have had an unrecognized lesion in the nasopharynx. The cervical nodes may have been infected secondarily to such a focus. This region is difficult to examine and has probably been neglected in most cases. The autopsy reports would scarcely have included mention of this region.

CONCLUSION

A case of coccidioidal granuloma is reported, with the autopsy findings. The primary lesion seems to have been in the nasopharynx. This lesion is described for the first time.

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HYDROSALPINX—WITH TORSION OF PEDICLE

REPORT OF CASE

By E. Vincent Askey, M. D.
Los Angeles

Torsion of the uterus and its appendages in both the normal and diseased states has been recently the subject of some study.

Robinson and Duvall [1] give abstracts of twenty-five cases of torsion of the pregnant uterus and report one of their own. Downer and Brines [2] call attention to cases of normal tubes and ovaries in virgins, which had become twisted. They believed this condition to be more frequent than usually considered. It has been suggested that such torsion could be the cause of certain cases of hydrosalpinx and hematosalpinx in virgins in whom none of the usual inflammatory precursors of these conditions were present.

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* Note.—Since this article was submitted for publication Stewart and Meyer have succeeded in isolating the coccidioides immitis from the soil. V. Proc. Soc. Exp. Biol. and Med., Vol. 29, p. 937, 1932.

The occurrence of twisted pedicle of a pedunculated fibroid has been recorded. Ovarian tumors, especially cysts, long have been the most commonly recognized condition wherein torsion is apt to occur.

Hydrosalpinx torsion has been seen less frequently, but is a definitely recognized condition. Eastman[3] has collected the available data on such cases which were reported up to 1927. He summarizes his findings by stating that there were reported, to that date, a minimum of ninety-one cases of torsion of hydrosalpinx. He is of the opinion that the true incidence of this condition is much higher than the given figure would indicate. The condition is of sufficient rarity to justify the report of such a case for record.

REPORT OF CASE

Present Illness.—The patient, a girl of sixteen years, with intact hymen, awoke on the morning of July 13, 1931, with generalized pain over the lower abdomen. This pain was of a cramp-like character, but was not severe. She thought, because she was nauseated, that she had eaten something that had upset her. She was visiting friends here and did not wish to complain, so she went with them to the beach and in bathing about noon. The pain then became so severe that she was forced to go home to bed. It continued all night, but no doctor was called until the following day. At that time, twenty-four hours after the onset of trouble, the pain was mild, so that she was comfortable as long as she remained lying down, with her thighs flexed. Her physician, Dr. William Noble Carter, wished to send her to the hospital, but she demurred. Observation was continued.

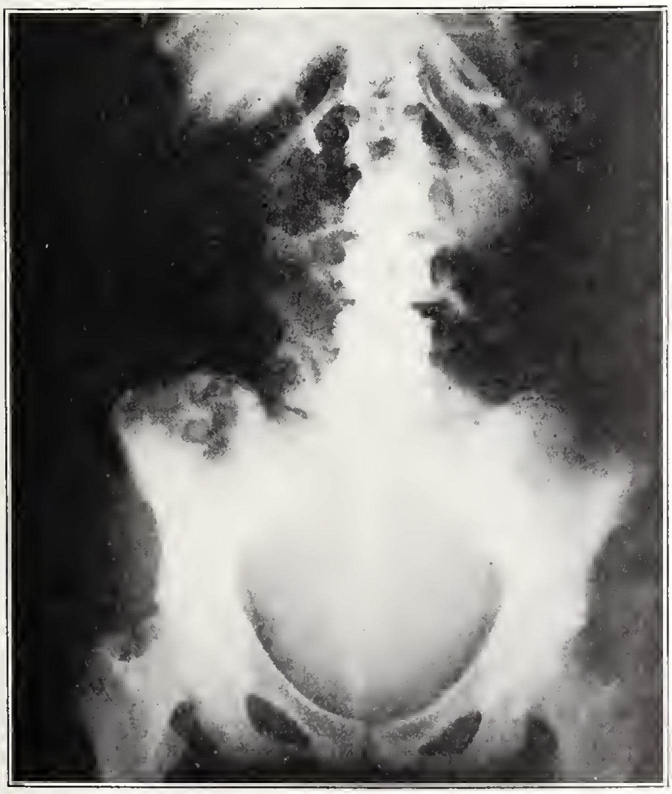

Fig. 1.—X-ray plate of the pelvis taken before operation.

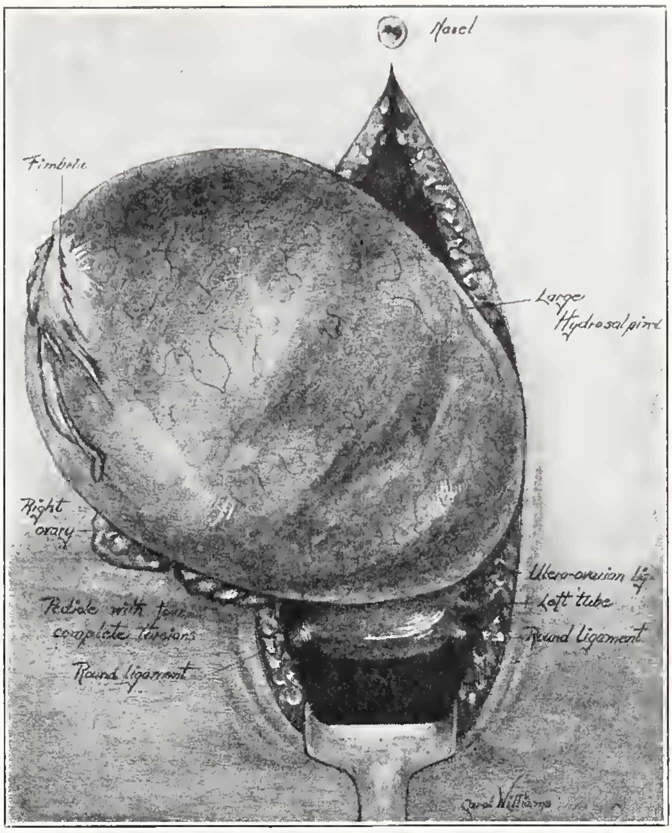

Fig. 2.—Drawing depicting the condition found at operation.

The following morning, forty-eight hours after onset, the pain was more severe and the patient had developed a temperature of 100.4 F. Doctor Carter then insisted on hospitalization and called the writer in consultation.

Past History.—The past history revealed that the patient had had, at intervals, attacks of mild pain in the right lower abdomen for several years. These attacks were more pronounced at her menstruation periods and were of a cramp-like character and were usually accompanied by nausea. Her menses were regular, but at times a little scanty. She remembered no pelvic infection or injury. Chronic appendicitis had been diagnosed as the cause of these recurrent attacks of pain.

About one year ago the patient was quite ill with influenza, which required several weeks' convalescence. She has had many injections for acne vulgaris of the face in the last year. She had never noticed nor been told of any mass in the abdomen. Other past medical history elicited no points of interest.

Examination.—Examination revealed no abnormalities, except for the abdominal and pelvic findings. The patient was in a semi-Fowler position in bed, with thighs flexed. She complained that the pain was greatly intensified, if she straightened out. Abdominal examination showed a prominent bulging just suprapubic, which gave the appearance of a four and one-half months' pregnant uterus, or a distended bladder. There was not marked rigidity, except during spasms of pain, but there was marked tenderness to pressure just below and outside McBurney's point. The mass itself was not very tender, but pressure on the mass evoked pain over the tender point above noted.

Pelvic examination revealed normal virginal vulva, and vaginal examination, therefore, was not done.

Rectal examination showed a large soft mass fixed low in the pelvis. The uterus could not be definitely outlined.

The patient's temperature was now 102.4 F. Pulse was 108. The white blood cell count was 16,000; polymorphonuclears, 88 per cent. Bladder catheterization gave only two ounces of urine, which was normal on analysis. X-ray was taken at once, with the following report by Dr. K. S. Davis: "A flat roentgenogram

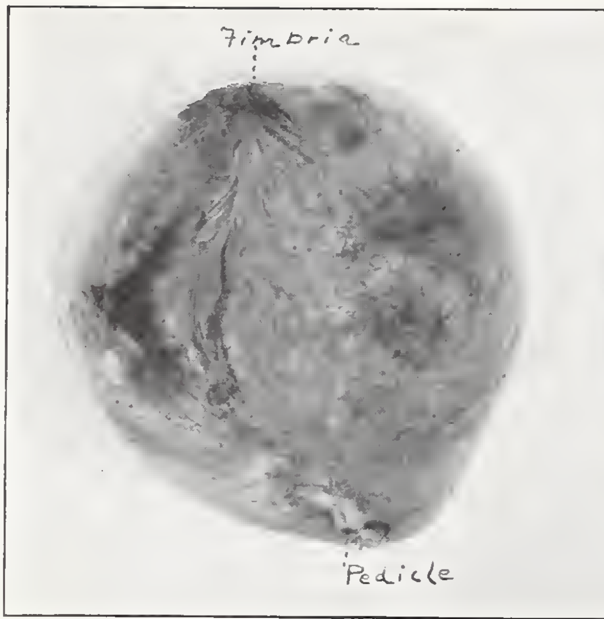

Fig. 3.—Photograph of actual specimen.

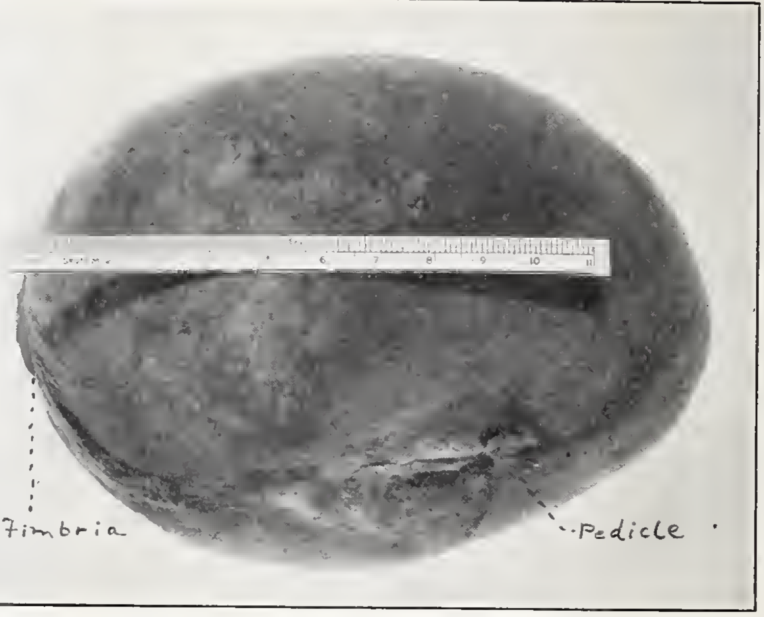

Fig. 4.—Photograph of actual specimen.

of the abdomen and pelvis shows a soft tissue tumor in the pelvis. There is no demonstrable evidence of fetal bones."

Diagnosis.—Diagnosis was made of ovarian cyst with twisted pedicle, with possible acute appendicitis. Immediate operation was advised. Consent for operation was withheld for two hours, until her parents were reached by long distance telephone. At that time the patient's white blood cell count had risen to 25,500. Operation was performed July 15, 1931, about fifty-six hours after onset of pain.

Operation.—At operation the usual lower median incision was made. On opening the peritoneum a considerable amount of straw-colored serous fluid was found. A large, bluish discolored cystic mass presented into the wound. This at first was thought to be ovarian in origin. It was quite tightly fixed in the pelvis, but was not adherent. Pressure by an assistant, through the rectum, allowed the mass to be delivered easily. Closer examination then revealed the mass to be a large hydrosalpinx of the right tube, which was twisted on a pedicle four complete turns. The twisting was clockwise. The right ovary was found lying below and to the outer side of the mass. It was apparently normal and was not included in the twisted pedicle. The pedicle was severed between hemostats and the mass removed intact. The uterus was small and normal, but was completely retroverted. The left adnexae were normal. The cecum and ascending colon were found lying high in the right upper abdomen and the appendix, being retrocecal, could not be visualized. There was, apparently, incomplete rotation of the colon of a congenital nature. Gallbladder, stomach, and duodenum were apparently normal to palpation. The abdomen was then closed without drainage.

The pathologic examination was made by Dr. Ernest M. Hall, who gave the following report: "Specimen consists of a large egg-shaped hydrosalpinx, measuring 11 by 10 centimeters. The wall is about two millimeters thick, and the cyst is filled with clear fluid. The surface is smooth except for the fimbriated end, which is spread leaf-like over the distal portion of the cyst. The cyst wall is dark purplish in color. Diagnosis: Hydrosalpinx due to congenital closure of the fimbriated end, with early gangrene due to twisted pedicle."

The patient made an uneventful recovery, being discharged from the hospital on the twelfth postoperative day.

COMMENT

This case presents several especially interesting features. The absence of any discoverable history of previous pelvic infection leads to speculation as to the cause of the hydrosalpinx. The finding of the congenital deformity of the cecum, appendix, and ascending colon suggests the possibility of other malformations. Congenital stricture of the tube is a theoretical cause of hydrosalpinx. The history of intermittent attacks of right-sided pain of several years' duration indicates that the tube has not been normal for some time. The tight fit of the mass in the pelvis makes it difficult to explain the four complete turns found on the pedicle, unless the size of the mass had increased after the torsion had occurred. This would tend to support Downer and Brines's [2] contention previously alluded to, namely, that normal tubes not uncommonly become twisted and may thereupon be the cause of hydrosalpinx.

Figure 1 is a copy of Doctor Davis' x-ray plate of the pelvis taken before operation.

Doctor Hall's technicians have prepared a drawing depicting the condition found at operation (Figure 2), and a photograph of the actual specimen (Figure 3).

SUMMARY

1. A short résumé of the occurrence of twisted hydrosalpinx is presented.

2. The history and findings of hydrosalpinx with torsion, occurring in a virgin, sixteen years of age, is presented.

3. It is suggested that this hydrosalpinx may have been the result of torsion of a normal tube originally, or possibly have been the result of congenital malformation of the tube, since other malformations were found.

4. Pictures of the specimen are presented.

1930 Wilshire Boulevard.

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BEDSIDE MEDICINE FOR BEDSIDE DOCTORS

An Open Forum for brief discussions of the workaday problems of the bedside doctor. Suggestions of subjects for discussions invited.

ECZEMA

Regarding Etiology and Classification

Stuart C. Way, M.D. (490 Post Street, San Francisco).—The word "eczema" comes from the Greek, and means to boil out. This origin undoubtedly accounts for its wide use, not only by the laity but by the general practitioner, for many of the dermatoses create this impression, at least to the uninitiated.

As a result of advances made in dermatology in recent years, and as the disease has been divided into various groups, according to their etiology, the use of the word is becoming more restricted.

Group 1. *Infantile eczema,* which is commonly regarded as an allergic phenomenon and often due to milk; therefore external therapy is not always permanent in its results. Satisfactory results are often best obtained from proper adjustment of the diet.

Group 2. *Dermatomycosis* in which the exciting cause is a fungus. Some of the common fungi include: trichophyton, aspergillus, epidermophyton, and monilia.

Group 3. *Seborrheic dermatitis* due to bacterial infection. Such infections may persist undiscovered in the sinuses, mastoid cells, gallbladder, and other organs; and last, but not least, in the prostate. Heredity plays an important rôle and a tendency toward the disease often runs in certain families and throughout several generations.

Group 4. *Occupational dermatitis* due to contact with such irritants as turpentine and its derivatives; cement dust, acids, alkalis, and various other chemicals. Vulnerability of the skin varies greatly with different individuals at different ages and in the same person at different times, according to the state of his health. The preventive treatment here is naturally the avoidance of contact with any of the known irritants.

Group 5. *Neurodermatitis* with frequent lichenification in which there is a functional nervous disturbance. Proper diet is important, for many a case of neurodermatitis has been cleared up by its correction, together with local applications and röntgen radiation.

Group 6. *Allergic dermatitis* forms an altogether too large a group which is becoming as great an offender as "eczema" itself did in the past. Only too often this diagnosis is made without sufficient reason. Without doubt the phenomenon of sensitization is often present in an individual, but one should not overlook the fact that many substances produce a dermatitis because of their irritating properties. In every instance the cause should be searched for and removed, not only for curative reasons, but for the prevention of recurrences. The appearance of a lesion is often deceiving as far as etiology is concerned, for local irritation can cause a simple erythema, a papular or vesicular eruption or, in the course of time, a resultant thickened and squamous condition of the skin.

Some of the common external causes are clothing, such as wool and fur; cosmetics; plants, including primroses, lilies, and chrysanthemums; soaps and various chemicals, including the dyes. The internal causes are innumerable and vary from the by-products of foods to the use of certain drugs.

Group 7. *Varicose eczema,* seen in middle and late adult life, occurs as a result of varicose veins, which produce a circulatory disturbance. Vein injections and ligations offer a solution when the deeper vessels are unobstructed. Rest and elevation of the limbs are equally important.

While successful treatment depends upon the removal of the cause rather than upon any form of external therapy, yet x-rays and soothing local applications cannot be safely nor entirely disregarded. In the past the use of the term "eczema" was readily accepted by the laity and covered a multitude of diagnostic errors on the part of the physician, but now it is merely an incentive to search for the true cause.

* * *

Regarding Diagnosis

H. J. Templeton, M.D. (3115 Webster Street, Oakland).—The use of the term "eczema" has been considered by some as indicating the height of dermatologic ignorance, and the term itself has been called the wastebasket of dermatology. Some purists have bent over backward in their attempts to completely eliminate this word and to substitute for it the term "dermatitis." This reaction has been caused by the inexperienced, who in careless usage of the diagnosis "eczema" have included all dermatoses which they could not classify otherwise. Such usage should be regarded as an indication of weakness on the part of the observer rather than an inaccuracy of the term.

To one who favors the retention of the term "eczema," such a diagnosis refers to a symptom complex, a picture painted on the skin, regardless of the etiology. Having recognized such a picture, the observer knows that he must attempt to discover its artist; that is, he must immediately start hunting for the etiologic factor. An intelligent handling of a case of eczema demands an accurate diagnosis of the cutaneous lesions involved, but even more so does it demand an accurate diagnosis of the factors producing the lesions. Unless one is etiologically minded in diagnosing eczema, one can be hopelessly lost.

Eczema has been described[1] as "An acute or chronic inflammatory disease characterized by erythema, papules, vesicles, pustules, scales, scabs or crusts, alone or in combination, with associated thickening and infiltration, and more or less attendant itching and burning." In dermatologic textbooks many pages are usually devoted to the differentiation of eczema from various dermatoses such as impetigo, lichen planus, and psoriasis. Such a method of approach is obviously impossible in a paper of this length. Therefore I shall attempt to draw from my own experience some points which have aided me in the diagnosis of this age-old condition. In so doing I shall be obliged to take for granted some knowledge on the part of my readers of the clinical picture of eczema.

Eczema of the scalp is not uncommon and is, most frequently, of the seborrheic variety. Such an eczema is associated with a rather severe dandruff and with reddening and itching of the scalp. It has quite a tendency to involve the retroauricular area and to creep downward onto the forehead and eyebrows. In severe cases it may involve the sternal and interscapular regions and also the axillae and groin. It is sometimes quite difficult to differentiate seborrheic eczema of the scalp from psoriasis, but in such instances it will be helpful to search for seborrheic eczema elsewhere, in its favorite areas just mentioned, and for psoriasis at its sites of predilection, the elbows and knees. It must also be differentiated from eczema of the scalp due to chemical irritants contained in various hair tonics, orris root shampoos, hair dyes and pomades. Here, of course, the diagnosis rests upon the history and upon recovery following removal of the suspected irritant.

Eczema of the face is often of the seborrheic variety and generally occurs on a skin which is excessively oily. The nasolabial fold is its favorite haunt as well as the area between the eyebrows and the eyebrows themselves. It must be differentiated from the eczemas of the face which so frequently are caused by external irritants such as orris root face powders, many of the newer high-powered facial creams, skin foods, and bleaches as well as some shaving lotions and creams. Pustular eczema of the face may come into diagnostic confusion with sycosis vulgaris, but if one remembers that this latter entity is a pustular folliculitis, characterized by pustules pierced by hairs, the problem is clarified. Moreover, sycosis vulgaris is limited to the bearded areas while pustular eczema occurs on the nonbearded as well as the bearded portions of the face. The typical "stuck on" yellow crusts of impetigo contagiosa should separate this dermatosis from pustular eczema. The sign which has helped me the most in diagnosing impetigo is the loosening of the epidermis around the periphery of the lesion. When it is wiped with a piece of gauze it separates and leaves a moist reddened denuded area around the periphery of the crusted area.

Eczema of the axillae and groin may be seborrheic in origin. I have found it difficult in many instances to differentiate such cases from an eczema produced by fungi, that is, from epidermomycosis. In solving such a problem, one should look for evidences of seborrhea elsewhere, as mentioned above, and should examine scrapings from the periphery of lesions for fungi. In seborrheic eczema of the axillae the borders of the lesions are not as sharply marginated as those of epidermomycosis. Here again, external irritants enter the picture, for many cases of eczema of the axilla have been caused by deodorants, depilatories, and shaving.

Eczemas of the hands generally turn out to be due to either external irritants or to fungus infections. The differentiation of the two varieties is extremely difficult and yet is of the greatest importance from the industrial standpoint. Moreover, when both factors are operative in producing a given case of eczema it takes a second Solomon sitting in judgment to decide between the claims of the patient and the interest of the insurance carrier. In the trade or occupational eczemas due to external irritants there is often a history of either the use of a new substance in the industry (such as the substitution of the synthetic "turps" for pure turpentine in paints) or an unusually intimate or prolonged contact with the substance at fault. If the patient is honest and unprejudiced his history may be of value in solving the problem, but in some industrial cases it may have to be accepted with reservations. It is in such instances that we have received a great deal of help from the so-called "patch test" of Bloch and Jadassohn. This is of value not only in industrial cases, but also whenever any external irritant is suspected of being the cause of a given eczema. Specifically we have found it worth while in diagnosing cases of eczema of the neck due to furs and perfumes, in eczema of the face due to orris root-containing powders, in eczema of the axilla caused by a dyed dress, in eczema of the face of a Japanese florist caused by chrysanthemums, in eczema of the hands and arms caused by primroses, in a recent example of eczema of the hands and arms from sensitization to turnip leaves, in eczema of the hands from turpentine and "turps" in painters, and many other similar instances. The technique of this test is to apply some of the suspected substance to the flexor surface of the patient's forearm and to cover it with rubber dental dam, sealing the edges with adhesive tape. The patch is removed after twenty-four hours and the skin is examined for evidences of irritation. If there is any marked degree of erythema or vesiculation the test is considered as positive. Inasmuch as some irritants do not give an immediate reaction the test should be read daily for a week in order to avoid missing any delayed reactions. In applying this test two precautions should be taken. First, the strength of any substance which is to be applied should be such as to produce no reaction on a normal skin; second, the patient should be instructed to report to the physician at once in case of any degree of discomfort or irritation from the test; this reduces the danger of severe positive reactions.

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[1] Sutton, Richard L.: Diseases of the Skin, eighth edition, Mosby, St. Louis.

The diagnosis of the mycotic eczemas or epidermomycoses of the hands depends upon the demonstration of fungi in scales taken from the lesions or in the caps of vesicles which have been clipped off. Such material is inverted, placed on a slide, covered with two or three drops of 30 per cent potassium hydroxid and a cover glass, allowed to stand for twenty-four hours and examined with the high dry lens with the iris diaphragm almost closed. One should be careful not to confuse cell borders with true fungi. If in doubt, the material from vesicles and scales can be sent to the laboratory for cultivation on Sabouraud's medium.

Most *eczemas of the feet* are caused by fungus infections. The crusted weeping patches on the dorsum, lateral border or sole of the foot known as "eczematoid ringworm," the vesicles seen on the soles or lateral borders of the toes and the sodden macerated, fissured areas between the toes, are all examples of one basic process. A smaller percentage of the eczemas of the feet may be caused by irritants such as dyes in hose or chemicals in shoe leather. If the two varieties cannot be differentiated on clinical grounds, one can have recourse to patch tests and examination for fungi in settling the problem.

Because of limitation of space, I have not discussed the diagnosis of the eczemas caused by food allergy, hyperglycemia, nitrogen retention (cardiovascularrenal breakdown), focal infection—in brief, the eczemas of endogenous origin. Suffice it to say that no consideration of an obscure case of eczema is complete without an appraisal of such internal factors. It is not sufficient that one should be able to make a clinical diagnosis of eczema. Rather, one must also recognize the extreme importance of diagnosing the cause. Only by being etiologically minded can we properly diagnose "eczema" and lift the cloud of opprobrium that has fallen upon the use of this term.

* * *

Regarding Treatment

Samuel Ayres, Jr., M. D. (2007 Wilshire Boulevard, Los Angeles).—The treatment of eczema may be considered from two points of view—symptomatic or palliative and etiologic or curative. Inasmuch as eczema is not a disease entity but merely a cutaneous reaction or symptom capable of being produced by a wide variety of causes, it becomes obvious that a clear perception of the underlying cause in each individual case is essential for adequate and rational treatment. This calls for a thorough-going history, a careful examination, and such laboratory procedures as may be indicated. Unfortunately, owing to the present limitations of our knowledge, many cases will be encountered in which no definite etiology can be discovered. The most that can be done in such cases is to relieve that patient's discomfort to the best of our ability.

Another complicating factor, however, presents itself at this point. Treatment which would be immensely helpful to an attack of eczema in one patient may be distinctly irritating to another, or in a given patient, treatment which may be beneficial now might be entirely inadequate three weeks later. Aside from the matter of personal idiosyncrasy, which is always an important factor in dermatology, treatment will be effective in proportion to an understanding of the cutaneous pathology. In other words, a given case of eczema may pass through a series of stages, it might become temporarily arrested at any one stage, or it may assume certain less common secondary appearances. The treatment will vary according to the pathologic development present at the time the case is seen. This can be roughly illustrated by the following diagram (Chart 1):

Chart 1.—*Usual Pathological Changes*

Erythema Pruritus Edema Vesiculation	Antipruritic and astringent "shake lotions."
Vesiculation Exudation Crusting	Astringent wet dressings if inflammation is severe, bland ointments if mild. Stimulating ointment if this stage is prolonged.
Subsistence Desquamation	Bland ointments, mildly stimulating, if this stage is prolonged.

Secondary pathological changes:

Lichenification (thickening)—Stimulating ointments, such as coal tar.

Papule formation—Shake lotions or mildly stimulating ointments.

Pus formation—Antiseptic and astringent wet dressings.

The following are a few of the type preparations mentioned:

Antipruritic and astringent shake-lotion:

℞ Phenol	2	
Zinc oxid	7	5
Calamin	7	5
Glycerin	15	
Lime water ad	240	nx

Sig.—Apply frequently.

Astringent wet dressing:

℞ Liquor aluminum acetate 480.
Sig.—Dilute with water 1 to 4 or 5 and apply as wet dressing.

Bland ointment:

℞ Zinc oxid	7	5
Cornstarch	7	5
Petrolatum	15	

Sig.—Apply twice daily.

Mildly stimulating ointment:

℞ Naftalen (Stiewe)	10
Zinc oxid	10
Cornstarch	10

Sig.—Apply twice daily.

Stimulating ointment:

℞ Crude coal tar	4
Zinc oxid	2
Cornstarch	15
Petrolatum	15

Sig.—Apply twice daily.

(Note: This ointment must be made up as indicated, and it should be black, not grey, brown, or green. Since coal tar sensitizes the skin to ultra-violet light, inflammation will follow if areas recently treated with coal tar are exposed to the ultra-violet lamp or to sunlight.

Antiseptic and astringent wet dressing:

℞ Copper sulphate	1	6
Zinc sulphate	5	6
Saturated camphor water ad	240	

Sig.—Dilute two tablespoons to a glass of water and apply as a wet dressing.

Cocoa butter is very comforting in cases of severe exfoliative dermatitis or other dry generalized types of eczema. It is also useful in those cases of eczema in elderly people whose skins are dried out from excessive bathing.

Recently, eczematoid ringworm or epidermophytosis has received considerable attention. This is usually distinguished from eczema, but many cases are so similar that clinical differentiation is impossible. Cases that are proven by microscopic examination of scales or vesicles to be due to fungi usually respond to Whitfield's ointment, a satisfactory formula for which is:

℞ Salicylic acid 2
Benzoic acid 4
Benzoinated lard..........30

This should be applied twice daily until the microscope proves the infection to be eradicated. The bedroom and bathroom, in which have been placed all shoes, socks, slippers, bath mats and many other articles which have come in contact with the infection, should be fumigated with a formaldehyde candle for four hours to prevent reinfection.

In addition to the lesions in which fungi are actually present, the infection is capable under certain circumstances of producing eczematoid lesions on other parts of the body, especially the hands, in which fungi are not present. These secondary lesions are known as "phytids" and probably represent an allergic reaction to the infection, which is most commonly on the feet. The successful treatment of this type of "eczema" obviously depends upon the discovery and antiparasitic treatment of the primary focus. In many instances the patients complain only of the secondary allergic lesions, which, by their conspicuous location on the hands, dwarf into insignificance the more chronic but concealed lesions on the feet or between the toes.

In addition to these drugs, roentgen rays are extremely serviceable in all stages of eczema, but should be administered only by one who is thoroughly familiar with therapeutic x-ray technique. The use of roentgen rays alone seldom results in a permanent cure, and there is great danger of overtreating a recurrent disease. Except under unusual circumstances the dose should not exceed one-quarter of an erythema dose, unfiltered, and should not be given oftener than once a week nor for more than fifteen consecutive times with a rest of two weeks after the seventh dose, nor for more than a total of thirty doses to any one area during the life of the patient. Smaller doses are indicated in the presence of very acute inflammations, and slightly larger doses are permissible in some of the chronic thickened lesions.

Ultra-violet light in suberythema or mild erythema doses is beneficial in some cases of subacute or chronic eczema, and in localized areas of long standing a vigorous erythematous reaction is often beneficial. Small doses of x-ray are usually much more effective, however. Ultra-violet light should be used with the greatest caution in cases of eczema showing a predilection for the exposed areas, such as the face, neck, and arms. Eczema in such locations is sometimes due to an idiosyncrasy to the ultra-violet rays in sunlight and probably would be much aggravated by lamp treatments. Subacute and chronic arsenic poisoning as well as foci of infection frequently sensitize the skin to sunlight.

Eczematous areas should be protected as far as possible from contact with external irritants. In this connection the term "external irritants" is purely a relative one, since substances which are entirely innocuous to a normal skin might be highly irritating to an eczematous skin. The employment of patch tests will serve to detect such external substances as might possibly be the cause of certain eczemas. But aside from the etiologic relationship, many substances encountered in daily life act as nonspecific irritants. For this reason it is important to keep all patches of eczema carefully protected by medication and bandages. Soap and water are usually definitely irritating to an eczematous skin. Where large portions of the body surface are affected, luke-warm colloid baths of short duration, and without soap, may afford considerable relief, in addition to acting as a cleansing agent. Cooked oatmeal gruel tied in a cloth bag and placed in the tub of water serves admirably for this purpose. A cup or two of cornstarch, mixed gradually with a small amount of water and heated slowly to avoid lumping, makes a smooth paste which when added to a tub of luke-warm water gives a very soothing effect to an irritated skin. After the bath the skin should be fanned or patted with a towel, but not rubbed. Under no circumstances should alcohol be used on the skin.

Systemic Treatment.—While the treatment described above is of the utmost importance in making the patient comfortable, it should be clearly recognized that it is at best palliative and is to be used as an adjunct to measures not only to cure the present attack, but to prevent recurrences if possible.

Diet is a very important part of the treatment in many cases of eczema, and sensitization to certain food proteins or food allergy is prominent among the causes of this disorder. Such a state of idiosyncrasy when determined by the skin tests or by trial diets such as have been recommended by Rowe, call for the total removal of the offending food from the dietary. A restriction of carbohydrates and fats is indicated in those cases in which a glucose tolerance test reveals a defective sugar metabolism. Reduction of starches plus the administration of enteric-coated pancreatic extract will often benefit cases of eczema in which a stool examination reveals fermentation and undigested starch granules. Recent investigations have shown that in animals a diet rich in cereals increases the irritability of the skin to a given irritant, while a diet of leafy vegetables and fruits diminishes the irritability of the skin.

A diminished gastric acidity, at times amounting to a total achylia, is occasionally encountered in eczema. In such cases the appropriate diet for such a condition, combined with dilute hydrochloric acid, should be prescribed. Severe generalized cases of eczema are occasionally seen in which a damaged liver or pathologic gall-bladder is found. Often the diseased gall-bladder is of the "silent" type, the diagnosis depending upon functional tests, etc. When such abnormalities are found and corrected, the eczema usually disappears.

Bacterial allergy manifesting itself in an eczematoid reaction to a focus of infection constitutes another important class of cases, the cure of which depends upon the eradication of the infection if possible, as in the case of infected tonsils, teeth, sinuses, prostate, appendix, et cetera, or desensitization by repeated minute doses of autogenous vaccine in cases where the infection cannot be removed. The latter situation is illustrated in those individuals who develop idiosyncrasies to some of the "normal" intestinal bacteria as pointed out by Wherry, Morris and Dorst, and Strietman. Of the more common foci of infection, the nasal sinuses are probably more often overlooked than any other.

It would be desirable for all cases of severe or chronic eczema to have the urine tested for arsenic. A negative history regarding exposure to arsenic is of no value whatever. The writer has encountered many cases of arsenical dermatitis masquerading as eczema, in whom no history of exposure could be obtained yet who responded to the prolonged administration of sodium thiosulphate. Arsenic can be stored in the tissues and so remain for months or possibly years. Sodium thiosulphate has the power of combining with the arsenic and causing it to be eliminated. The treatment is slow and should be continued for months if necessary. The drug should be given intravenously in doses of one gram dissolved in ten cubic centimeters of water, from two to four times a week, depending upon the severity of the eruption and the amount of arsenic found in the urine. The Gutzeit test is satisfactory for determining the amount of arsenic in the urine.

Nonspecific protein therapy in the form of intramuscular injections of whole blood, boiled milk, or of intradermal injections of peptone are of value in certain selected cases of chronic eczema of undetermined cause, but should not be used indiscriminately.

Studies in the mineral metabolism and the acid-base balance are being carried out, but the results are conflicting. While alkalinization has generally been regarded as desirable in eczema, some evidence has been brought forward to show that allergic diseases to which class certain types of eczema belong, are benefited by acidotic treatment. The oral administration of calcium has enjoyed an empirical reputation for many years, which has recently been strengthened by experimental studies showing the calcium-potassium ratio is an important factor in the irritability of the skin, a relative increase of calcium tending to diminish irritability, while a relative increase of potassium increases irritability.

The endocrine glands are vitally important in the proper functioning of the body, and disturbances in their secretions probably play a part either directly or indirectly in certain cases of eczema. Rational endocrine therapy in eczema, however, appears to lag behind other methods of treatment. When definite disturbances of gland function can be proven by the usual physical signs and symptoms, the appropriate glandular preparations should be administered.

Finally one must not forget that psychic causes may be all-important in the production of some cases of eczema. A careful history may reveal financial, domestic, social, or other causes of acute or chronic worry or anxiety. These psychic factors may produce a skin eruption by various channels: inhibition of gastric juice leading to improper digestion of food resulting in toxic end products, high blood sugar, endocrine imbalance, etc. Frequently a rest from routine activity or a complete change of environment will work wonders in an otherwise unexplainable eczema.

The internal administration of sedatives is sometimes necessary to control itching which has interfered with rest and sleep. Aspirin or codein are often very satisfactory for this purpose, their action in allaying itching comparing favorably with their effect on pain.

Treatment of Whooping-Cough by Means of Bordet Vaccine.—Induced by the hygiene commission of the League of Nations, Weichsel employed the Bordet vaccine in the treatment of fifty cases of whooping-cough. All the children were in the early paroxysmal stage. There was no opportunity for a prophylactic use of the vaccine during the incubation period. Those children in whom the paroxysmal stage had begun more than two weeks previous were excluded from the vaccination. The Bordet vaccine consists of a culture suspension of killed Bordet-Gengou bacilli in ampoules containing one cubic centimeter each. Six injections are supposed to be sufficient to check the whooping-cough, and they were administered at intervals of forty-eight hours. Since no special directions were given as to how the vaccine was to be administered, the author made some of the injections subcutaneously and some intramuscularly. Local and general reactions were entirely absent in either form of administration. A therapeutic effect of the vaccine was not noticeable.—*Monatsschrift für Kinderheilkunde.*

Cause of Death in Premature Births.—Creutzfeldt and Peiper describe the results of the histologic examination of the brains of seven premature infants, who all had shown before death serious respiratory disturbances. Six of them revealed no hemorrhages whatever in the brain stem, and in the seventh child there were small extravasations without reactions of the surrounding tissues, that is, so-called agonal hemorrhages. In this case there also was a slight hemorrhage from the right vena terminalis. These observations contradict the assumption of Ylppö, of Schwartz and of others who believed that the fatal respiratory disturbances in premature infants must be the result of cerebral hemorrhages. On the contrary, the observations prove that death is only the result of the immaturity of the central nervous system and of the resultant weakness of the respiratory center.—*Monatsschrift für Kinderheilkunde.*

Displacement of Heart in Pulmonary Tuberculosis.—From a review of the literature, Clayson concludes that the main causes of cardiac displacements in pulmonary tuberculosis are fibrosis and pleuropericardial adhesions, associated or not with a previous pleural effusion. Persistent afebrile tachycardia is not necessarily an indication of active disease and may be due to a displaced heart. When the roentgenogram shows a displaced heart, treatment should not be postponed till symptoms occur. A trial should first be given to breathing exercises, and then, if embarrassing symptoms develop, to phrenic evulsion. Displacements of the heart may possibly be prevented by the systematic practice of breathing exercises, begun as noticeable.—*Monatsschrift für Kinderheilkunde.*

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EDITORIALS[*]

SPLENDID WORK IN RECENT STATE ELECTIONS

A New Line of Activity in a State Election.—In the recent primary election the Los Angeles County Medical Association showed how the medical profession may make its influence felt in the selection of candidates to the legislature and other state offices. Careful preliminary planning and a loyal and hard-working group of interested members demonstrated how success could be attained in legitimate political activity.

The officers of the Association made an accurate survey of each of the thirty assembly districts of Los Angeles County, and then appointed special subcommittees or key-men for each of the assembly districts, sending special letters of information to all members in each district so that contacts with the key-men were made easy. In a preliminary announcement in the *Bulletin of the Los Angeles County Medical Association*, printed on August 18, Secretary Harry Wilson stated:

"The Association is interested, as any group of intelligent and patriotic citizens should be, in good government. The Association urges its members to support only those candidates who stand for good, constructive government. It asks its members to learn more about the candidates in their districts than they have been accustomed to learning in the past, and for a very definite reason. . . .

"The Association feels that good government is sufficient for the protection of the medical profession. It asks its members not only to vote intelligently, but to aid in the campaigns of such candidates they, as individuals, select as worthy." . . .

* * *

An Estimate of the Results.—After the primary election it was possible to estimate somewhat the effectiveness of the work which had been done, and it was most gratifying to note that the end-results fully warranted all the efforts that had been put forth. If the largest county medical unit of the California Medical Association was able to do these things in a metropolitan community, where political forces are many and difficult to overcome, then other county units should be able to get results equally efficient. There is yet time for every county medical unit of the California Medical Association to create an effective organization prior to the final elections in November. Officers and members of county societies who desire additional information on methods of procedure can secure the same through the California Medical Association Department of Public Relations, or from the Los Angeles County Medical Association. (For addresses, see index on front cover.) The open letter which Dr. William R. Molony, president of the Los Angeles County Medical Association, submitted to the Los Angeles County Medical Association after the primary election, was printed in the September 15 *Bulletin* and is as follows:

"Politically minded! Our critics have been saying lo—these many years, that we have lacked this quality. But no more—at least for this year—can we be accused of being careless and asleep at the switch. The enthusiastic coöperation of the members of our Association during the recent primary campaign was most gratifying and is a source of added zest to the members and officers of the Los Angeles County Medical Association.

"The major credit must go to the group of earnest men who comprised the executive division of the Legislative Committee and who in turn were the 'key-men' in their respective assembly districts. In practically every district the nominees of both the Republican party and the Democratic party were men and women endorsed by the Los Angeles County Medical Association as candidates worthy of our support for good government, education, and public health.

"In those districts where a close contest is at hand for the final run-off in November, the 'key-men' and this committee will be on the job and will have the united support of our Association. We must now turn our attention to a careful examination and scrutiny of the candidates for the other elected officers—county, state, and federal. With the organization as now constituted, I believe that the same careful, earnest and enthusiastic action will be had as we have just witnessed.

"The Los Angeles County Medical Association has a membership of more than 2,100. Your influence is more widespread and penetrating than any other similar group in the county, and if you do not fully capitalize this asset it is in a sense your own fault. We should not exert our power for selfish purposes, but rather for good government, proper medical standards, and for the public health."

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[*] Editorials on subjects of scientific and clinical interest, contributed by members of the California Medical Association, are printed in the Editorial Comments column, which follows.

DOES LIFE SPAN INCREASE MEAN RACE STANDARD DECREASE?

Dean Lyon's Plea for Greater Attention to the Subject of Heredity.—Dean E. P. Lyon of the University of Minnesota Medical School presented in the September *Journal of the Association of American Medical Colleges* an interesting paper on "Heredity as a Subject in the Medical Curriculum." The recent White House Conference came in for comment because practically no mention was made of heredity as a factor in race betterment when the problems of child improvement were under discussion. Lyon's own views he expressed in the sentence, "Heredity and environment, Siamese twins, the one cannot exist without the other."

* * *

Doctor Myers' Interesting Comments.—In the discussion Dr. B. D. Myers of Indiana University aligned himself with Dean Lyon. The following startling sentences are some excerpts from Doctor Myers' remarks:

"I quote from Bianchi, the retired psychiatrist of the University of Naples, who says: 'In spite of the decrease in infant mortality; in spite of the increase in the average life rate, throughout the civilized world there is an increase in crime, in feeble-mindedness, and in insanity.'

"As physicians we have contributed to the decrease in infant mortality, and we have contributed to the increase of average life span. Just as directly, I think, we have contributed to the increase in feeble-mindedness, crime and insanity, by keeping alive individuals who, under conditions that existed 100 or 150 years ago, would have died. Under the law of survival of the fittest, they would have been killed.

"To my mind, one of the most important things in the world is the trend of our civilization. Those of you who are interested in state institutions know that taxation for the support of the feeble-minded and the insane and the criminal is growing so greatly as to threaten support of education. It is vastly in excess of the support of education. They are building great institutions which they call reformatories, and yet we go along without any effort to strike at the preventive side of this great problem that Dean Lyon spoke of.

"I think this is one of the most important problems we have to deal with. Indiana, the old Hoosier State, followed California and Minnesota in the passage of legislation a year ago providing for sterilization of the feeble-minded. We realize we will catch only a small number, perhaps, but we believe even that small number, considered from the standpoint of 150 years, becomes an important number."

* * *

California's Advance Step in Sterilization Laws. One more passage from Dean Lyon's paper may not be amiss since it makes mention of California's advance step in sterilization of human beings who should not propagate their kind.* In his closing discussion Dean Lyon expressed himself thus:

"In Minnesota about 500 feeble-minded women have been sterilized, and in California 6,000 or more, yet doctors talk about that as a drop in the bucket. I cannot see it that way. I am reminded of the story of the so-called 'Disgenic Family,' which you will find in the journal, *Eugenics*, of about a year or a year and a half ago. I believe the family exists in Milwaukee. A grandmother of the present adults came there in 1850, undoubtedly a feeble-minded woman. At present, of the forty or fifty adults, there are so many paupers, criminals, epileptics, and other forms of degeneracy among them as to more than equal the total number of individuals. The article asserted that the cost of taking care of that family for the next five years would be $50,000, and that the records show the expense would be doubled every five years. When you think of all that, and imagine the grandmother had been sterilized, you could not have called it a 'drop in the bucket.' You would rather have spoken of keeping the drop of infection out of the ocean of broth. According to that old illustration of the bacteriologists, you recall, if you should put one drop of bacteria in an ocean of broth, in five days the whole ocean would be polluted. Heredity works by reproduction, and reproduction works by geometric ratio. Hang that fact on the most prominent hook of your mental clothes-rack and wear it in the forefront of your thinking at every possible opportunity. . . .

"All right, then. I come to the conclusion that doctors know too little about heredity, think too little about it, act too little about it, are interested too little; and that brings me straight to this group. I think we ought to advocate and get permeating through the medical curriculum just as much knowledge of heredity and just as much mature opinion about its application as is possible. I have no program, but as I conceive it, somewhere the fundamental facts should be presented plainly and clearly to medical students, and the practical importance of the facts should be stressed. The rest should be left to the clinical teachers, who should emphasize and teach on it at every opportunity."

COMMENT ON THIS AND THAT

A County Medical Society Plan on Lower Costs for Citizens of Low Bracket Incomes.—An interesting experiment in county medical society service to lay citizens of the moderate or "white-collar" income class is outlined in a recent Associated Press dispatch. As such it will have a wide circulation in many newspapers throughout the country and will lead to considerable discussion in lay and medical circles. In California, plans very similar to that proposed by the Omaha-Douglas County Medical Association have been under discussion for some time, both in our state and our county medical organizations. Because the dispatch shows the general trend of efforts to bring about a betterment of conditions associated with professional service to citizens of modest means, especially through the agency of a county medical society, it is here reprinted:

Doctor Budget Plan Proposed

Low-Salaried Man Would Pay by Year

Omaha, Sept. 12. (AP)—A plan whereby families with incomes of $2700 or less may receive all needed medical attention for a yearly charge of 3 per cent of incomes will come before the Omaha-Douglas County Medical Association Tuesday for decision.

The proposal provides that all members of the medical society, hospitals and nurses offer their services to the group of families eligible for the "health policies." It is provided that these policies be cancellable only on grounds of "deceit" or fraud." Size of the family would have no bearing on the fee.

An executive board composed of members of the society would handle the medical end of the plan, and the financial part would be handled by a finance company. Members of the organization would be permitted to choose their own doctor, nurse and hospital, and each physician or surgeon would be required to list a schedule of fees for patients in the $2700 class.

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* The December 1931 California and Western Medicine, page 411, printed a paper on "Testicular Substance Implantation" by Dr. Leo L. Stanley of San Quentin Prison, whose previous work in sterilization experiments played so large a part in making possible the adoption of California's sterilization laws. See December, 1928, California and Western Medicine, page 369. Also this issue, page 283.

Total receipts and bills would be pooled each month. Each doctor would receive from the pool the same percentage of the amount he billed his patients as the pool received in receipts.

It is estimated by sponsors that 10,000 families would be signed as members of the plan within two years.—Los Angeles *Times*.

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The Letters of the Late Dr. Joseph W. Cook.—The first of a series of three letters compiled from communications received from the late Dr. Joseph W. Cook, who died of typhus fever in Persia, and who in his residence in Riverside County was a former member of the California Medical Association, appeared in the September CALIFORNIA AND WESTERN MEDICINE. The current issue of CALIFORNIA AND WESTERN MEDICINE in its Lure of Medical History department prints the second letter.

Attention is called to these letters because they tell of services in a far-away land that should make many of us, who are in practice in our own land of comfort, wonder whether we have a legitimate right to feel abused when things seem to be going awry. The letters are fascinating. Do not fail to give yourself the pleasure and inspiration that will come from reading them.

* * *

Meyer's Essays on the History of Embryology. In referring to the letters by the late Doctor Cook, mention may be made also of the interesting series of eleven papers which have been contributed by Dr. A. W. Meyer of the department of anatomy of Stanford University Medical School, and which come to a close in this issue of CALIFORNIA AND WESTERN MEDICINE. We take it that many members of the California Medical Association who have followed this series of articles were delighted to have the opportunity of reviewing former readings on the subject, through the perusal of Doctor Meyer's admirable presentations. CALIFORNIA AND WESTERN MEDICINE was especially pleased to have this series of papers because they found so fitting a setting in the Lure of Medical History department in this JOURNAL; a name given to the department several years ago when its institution was first discussed by the editors with that beloved former member of the California profession, Dr. Adolph Barkan of San Francisco, who latterly has spent so much of his time in Switzerland.

* * *

A Physician Is Nominated Governor of Arizona.—California physicians should be interested in the success of B. B. Moeur, M. D., of Tempe, Arizona, who has become the Democratic nominee for Governor of Arizona. In Arizona the Democratic nomination is usually accepted as equivalent to election. The newspaper item printed below was a press report when the figures were still incomplete, but the final totals gave Doctor Moeur a substantial lead. He has the good wishes of the medical profession of the Great Southwest for a successful administration. The clipping follows:

"Phoenix, Sept. 13. (AP) — Dr. B. B. Moeur, Tempe physician who is taking his first fling at politics, took a lead of nearly 3,900 votes over Governor Hunt, Arizona's 73-year-old Democratic chief executive, trying for an eighth term, as approximately one-third of the state voting precincts were reported tonight in today's primary. . . ."

Term of Conception in Women.—From careful studies, Ogino concludes that the term of conception as a rule lasts eight days. It extends from the nineteenth to the twelfth day before the succeeding menstruation. In the time between the twenty-fourth and twentieth day before the next menstruation, a conception is extremely rare, but there are as yet not sufficient observations to exclude the possibility of a conception during these four days; because of the rarity of conception during this period, however, it can be considered as practically sterile. But during the eleven days before the onset of the next menstruation conception is impossible. The author thinks that the determination of these factors will enable women who have to practice sexual abstinence or resort to contraceptives to do without these at least during some periods. For practical purposes it is advisable to determine the period of conception from the onset of the last menstruation. If the cycle lasts twenty-eight days the time of conception is between the tenth and seventeenth day after the onset of the last menstruation. If the cycle is longer or shorter than twenty-eight days, the term of conception is shifted by so many days backward or forward. Since there are comparatively few women in whom the menstrual cycle is always of the same duration, the formula for the time of conception has to be expressed as follows: Beginning of term of conception is ten plus (minimal duration of cycle minus twenty-eight days). End of term of conception is seventeen plus (maximal cycle minus twenty-eight days). The maximal and minimal duration of the cycle have to be determined from the last twelve series of cycles; to take into account only three or four cycles is not sufficient. However, since most women do not keep a record of their menstrual cycles, they have to give the maximal and minimal duration from memory. The formula mentioned is of value only for women in whom the menstrual cycle has a maximal fluctuation of not more than ten days. The greater the fluctuations, the lesser the value of the formula.—*Zentralblatt für Gynäkologie.*

Physiology of Drainage of Nasal Mucus.—Hilding calls attention to the fact that ciliary action and a protective, moving film of mucin over the surface are the chief mechanical factors involved in the drainage and defense of the nasal mucosa. The drainage, as activated by the cilia, is rapid, powerful and effective. Gravity plays a minor part. Traction, on the other hand, exerted on the film of mucin as on a net is an important factor in drainage. A complete exchange of the film of secretion over the surface takes place every ten or fifteen minutes in the more active regions in the nose, and about once an hour in the inactive regions. The drainage is directed backward with a strong tendency to flow toward the best protected areas, namely, the middle and inferior meatuses. The inactive interior third of the noise drains largely through these metasuses by means of traction. The sinuses (as represented by the frontal sinus of the dog) have definite and extremely efficient drainage that is spiral in direction. With these points in mind, the necessity of changing the point of view of treatment of nasal conditions from an anatomic to a physiologic one becomes apparent.—*Annals of Otol., Rhinol. and Laryngology.*

EDITORIAL COMMENT

This department of California and Western Medicine presents editorial comment by contributing members on items of medical progress, science and practice, and on topics from recent medical books or journals. An invitation is extended to every member of the California and Nevada Medical Associations to submit brief editorial discussions suitable for publication in this department. No presentation should be over five hundred words in length.

Lipoids, Proteins, and Emetin Intravenously for Peptic Ulcer.—A few years ago George B. Pitkin, M. D., of Bergenfield, New Jersey, introduced a mixture of procain, starch, and strychnin for "controllable spinal anesthesia." This mixture was marketed by the H. A. Metz Laboratories, Inc., a subsidiary of Drug, Inc., under the registered trade-marked name of "Spinocaine." The more critical observer must have wondered at the rationale of including strychnin, a dangerous spinal irritant, in a mixture proposed for subarachnoid injection.

Recently George B. Pitkin, M. D., has proposed a mixture of proteins, lipoids, and emetin for intravenous injection for the treatment of peptic ulcer.[1] Although meticulous directions for the administration of this mixture are offered by Pitkin the exact composition of the mixture is not stated, and no indication is given of the amount of emetin present in it. As may be imagined, Pitkin's report on the effects of this treatment in peptic ulcer is rather uncritical, and it is obvious that whatever beneficial results were obtained were probably due to the admitted use of what was essentially a Sippy diet along with this extraordinary intravenous medication.

The grounds upon which emetin are included in the mixture proposed are very vague and there is no real evidence to indicate that this very dangerous alkaloid is of any value at all in peptic ulcer.

The purpose of this comment is to call attention to the danger of attempting to treat such a chronic condition as peptic ulcer by the repeated intravenous injection of unknown amounts of emetin. It has been shown by California workers that emetin is very slowly excreted, that it is accumulative in effect and that toxic symptoms are liable to be encountered in man whenever a total dosage of ten milligrams per kilogram is exceeded, even over a relatively long period of administration.[2] That the dangers of the intravenous use of emetin is common knowledge is indicated by the editorial reply to a query from one of Pitkin's New Jersey colleagues,[3] which appeared in the *Journal of the American Medical Association.*

Pitkin's mixture of protein, lipoids, and emetin for intravenous injection for the treatment of peptic ulcer is now marketed by the H. A. Metz Laboratories, Inc., a subsidy of Drug, Inc., under the registered trade-marked name of "Synodal," which is stated to be a "brand of Emetabol." The literature supplied by this company regarding the mixture fails to indicate the amount of emetin in the mixture, following the example set by Pitkin in his publication. In view of the well-known dangers of the intravenous use of emetin it would seem that the least this company could do in exploiting Pitkin's work would be to state the amount of emetin in the mixture offered for sale. The burden of proof in this matter remains upon Pitkin and upon the company marketing his proposed mixture. Until reasonable proof is offered that this remarkable treatment is really effective in peptic ulcer, and until the manufacturers indicate the amount of emetin in the mixture offered for intravenous use, it would seem wise for physicians generally to show some of that skepticism for the lack of which the profession is sometimes so notorious.

Department of Pharmacology. University of California.

C. D. Leake,
San Francisco.

Mussels and Clams: A Seasonal Quarantine—Bicarbonate of Soda as a Factor in the Prevention of Mussel Poisoning.—Each year, since 1927, the California Board of Public Health has established a quarantine on mussels during the summer months when these shellfish are toxic. Recently a similar quarantine has been placed upon clams because of a toxic condition that has been discovered in them. These quarantines, naturally, have resulted in protests from some of the individuals who are engaged in the commercial distribution of clams and mussels. It would seem to be in order, therefore, that the essential facts relative to the need for the exercise of quarantine measures be enumerated. Since the author of this article has been engaged in research work connected with the investigation of clams and mussels, his familiarity with every detail of the problem may entitle him to discuss the relationship between the scientific investigations and the practical measures that are concerned with the solutions of the many problems associated with the prevention of shellfish poisonings.

In 1927 an outbreak of mussel poisoning involving more than 100 cases constituted almost a catastrophe. Most of these cases occurred in San Francisco and its immediate vicinity. The California Board of Public Health established a quarantine on these shellfish shortly after the first cases had been reported and a scientific investigation was undertaken immediately by the Hooper Foundation for Medical Research of the University of California. This investigation has been carried on during each of the years which followed and is still in progress. Based upon findings which have been made available through this investigation the California Board of Public Health has established a permanent quarantine upon mussels which is in force during the summer months of each year.

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[1] Pitkin, George B.: A New Treatment of Peptic Ulcer, Am. J. Surg., N. S., 12:466 (June), 1931.

[2] Anderson, Hamilton H.: The Oral Toxicity of Emetin Hydrochlorid. Am. J. Trop. Med., 10:249 (July), 1930. Rinehart, J. F., and Anderson, H. H.: Effect of Emetin on Cardiac Muscle, Arch. Path., 11:546 (April), 1931.

[3] J. A. M. A., 97:1096 (October 10), 1931.

No cases of mussel poisoning were reported in 1928, but in 1929 fifty-five cases occurred. Protests against the quarantine measures were made by some of those who are interested commercially and blame was placed upon the inexperience of individuals who gather and prepare mussels for their tables. In 1930 only one case of shellfish poisoning was reported, and in 1931 there were but two cases. Laboratory tests performed during both of these years showed a remarkable toxicity to animals, however. It was apparent that many individuals had eaten toxic mussels at this time and apparently without any physical harm. It became evident, also, that mussels and clams varied in toxicity and the toxicity did not reach a height every year which might render them dangerous for human consumption. The advisability of the establishment of a permanent quarantine on shellfish was questioned, but the appearance of forty-two cases during 1932 demonstrated the necessity of the quarantine. The further discussion in this paper is concerned with the practical reasons which have necessitated this action.

During the toxic season of 1932 the concentration of the poison dangerous for consumption by human beings could be determined for the first time with sufficient certainty. A chemical investigation of the poison has also revealed facts which should become of common knowledge. This paper is not intended to present an outline of the research work that has been done, but it is intended to point out certain facts which should be considered in establishing quarantine measures during coming years.

By careful observation it has been determined that individuals who gather shellfish may be divided into two groups: first, that comprising individuals who know that it is dangerous to use shellfish which are gathered at certain seasons of the year but who do not make use of the information; second, the group of individuals who do not know of the danger which lies in the consumption of these shellfish at certain seasons but who would pay attention to warnings. From personal experience it is known that the second group of individuals, those who have no information on the subject, is the larger group. Little can be done to determine the actions of the first group, but the second group might be brought under control through a more intensive campaign of education. Newspaper publicity is valuable, but there might be more action in issuing warnings at the largest and most frequently visited mussel-beds along the coast, from Monterey to Mendocino counties. Perhaps the placement of warning signs might be of some value. Such procedure might be expensive, but it certainly would not cost more than the hospital treatment of patients who may be made ill through the consumption of poisonous shellfish.

Hooper Foundation for Medical Research.
H. Muller, Ph.D.
San Francisco.

(To be concluded)

Effects of Boresome Occupations on Health.—In the annual report of the chief inspector of factories, the senior medical iuspector, Dr. J. C. Bridge, calls attention to the beneficial effect of manual work on mind and body and emphasizes the importance of maintaining interest in work. He describes the uninterested worker as an industrial invalid. The pleasure of the craftsman is being crushed by the steady increase in mechanized processes, the result of which is seen in the tendency to a rise in sickness rates for what are termed "nervous disabilities" for want of a better name. Repetition undoubtedly creates a weariness not expressed in physical terms but in a desire by the worker for temporary relief from the enforced boredom of occupation in which the mind is left partially or entirely unoccupied. This fact must be recognized for the understanding of sickness records and absenteeism in the industrial population. Vastly more days are being lost from vague, ill-defined but no doubt real disability due to ennui than from all the recognized diseases together. How is this problem to be dealt with? More interest in processes that are themselves dull must be created. Piece instead of time rates, promotion for efficiency, bonuses of holidays for unbroken time, and rest periods with change of posture and attention are a few of the suggestions for this growing problem.—*London News Letter* in *Journal of the American Medical Association,* Vol. 29, No. 5.

Doctor Embargo.—"Professional birth control" is the current cry of United States Medicine in its war against surplus doctors (*Time,* September 12). One method of control is for United States medical schools to impede admittance of freshmen. For example, more than 600 applicants last week wanted to enter Western Reserve Medical School. Only 75 got in. More than 700 applied at McGill; only 100 were admitted. Seven thousand of 13,000 candidates for all United States medical schools were refused admittance this year.

Another method of control is for examining boards to fail graduates of foreign medical schools. During the past five years only 47.1 per cent of applying foreign graduates succeeded in getting State licenses.

Last week New York State's Board of Medical Examiners, one of the strictest in the land, shut New York's door tighter than ever. Only schools whose graduates have any chance to be examined in New York are the governmental medical schools of Austria, Germany, Holland, Hungary, the Scandinavian countries, England, Ireland, and Scotland.*

Also privileged are Canada's great universities—Alberta, Toronto, Queen's, Western Ontario, Dalhousie, Laval, McGill.

Hard hit were some 1,500 United States students last week en route for European medical education. They were the more enterprising of the 7,000 students refused United States medical education this autumn. But, promised Dr. Harold Rypins, secretary of the New York board, the 1,500 will not forever be stigmatized with medical illegitimacy, if next year they return to the United States and succeed in wangling admittance to United States schools.

Hard hit also are steamship lines, to which the transport of students in these times is a comparatively big business.—*Time,* September 26, 1932.

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* But not Scotland's Royal Colleges, Anderson College of Medicine, St. Mungo's College.

C. M. A. DEPARTMENT OF PUBLIC RELATIONS

An open forum for progress notes on the department's activities, and for brief discussions on medical economics. Correspondence and suggestions invited. Address Walter M. Dickie, Room 2039, Four Fifty Sutter Street, San Francisco. This column is conducted by the Director of the Department.

Some Conclusions on Furnishing Medical Care on a Periodic Payment Plan

The Committee on the Cost of Medical Care, in 1929, invited the National Bureau of Economic Research, Inc., to make a survey of the United States to determine to what extent the people were using the principle of insurance in order to secure medical and hospital care. This survey was made under the direction of Mr. Pierce Williams and published under the title of "The Purchase of Medical Care Through Fixed Periodic Payment."

The following is a partial summary of the findings of the survey:

MEDICAL INSURANCE IN THE URBAN COMMUNITY

In considering the possible lines of development of medical care, insurance in communities which already have a sufficient number of medical practitioners and reasonably adequate number of hospital beds, three indispensable elements should be kept in mind. These are: (1) a number of individuals desirous of assuring medical care to themselves, and willing to make the requisite fixed periodic payments to maintain the fund out of which the cost of medical service actually rendered is paid; (2) a properly constituted organization to (*a*) collect the periodic payments from those desiring the protection, and (*b*) remunerate practitioners and pay hospitals for medical care provided; (3) a sufficient number of doctors, surgeons and other practitioners willing to provide service on the basis of the changed relationship between physician and patient which a plan of medical care insurance almost inevitably creates. To what extent do these three elements in medical care insurance already exist in the typical American city?

FACTORS IN EXTENSION OF VOLUNTARY INSURANCE

Whatever the future course of developments with regard to compulsory sickness insurance, the way lies open for interested groups to encourage the adoption of the fixed payment method of purchasing medical care throughout the United States. The group which appears to lend itself most conveniently to the administration of sickness insurance is the group of employees of a particular industrial, financial or mercantile establishment. The local trade union is another type of group which experience has demonstrated is suitable for the purpose of medical care insurance. Other types of organized groups, professional, fraternal, social, existing in urban communities, are equally capable of being utilized for the purpose of voluntary medical insurance. Group disability insurance, as the name indicates, is written by life insurance companies to employers for the benefit of their employees, and utilizes the entire body of employees of a particular concern as the unit of insurance against non-compensable disability. Likewise, a policy issued to an employer to secure his liability under a state workmen's compensation law makes use of the entire group of employees for purposes of insuring them against industrial accident. One advantage of some form of organized group over individuals insuring singly is in the matter of expense. Experience with commercial health and accident insurance has demonstrated that it is relatively costly for the company to acquire and hold its business when clients have to be solicited one by one. The more the insurance carrier has to expend in getting and holding policyholders, the less there is available for benefits.

TYPES OF VOLUNTARY INSURANCE ORGANIZATIONS

The existing types of medical and hospital insurance in the United States do not afford much experience to help in deciding what type of voluntary organization for collecting the periodic payments and arranging for medical service would be most satisfactory. In the mining and lumber industries, the employing concern itself collects the periodic contributions and administers the medical care fund. Few of these company plans provide for any participation by employees in the administration. The trunk-line railroad plans of hospital care, on the other hand, are administered by associations governed jointly by employees and railroad officials. Employee mutual benefit associations paying cash sickness benefit exist in many industrial establishments. Although few of these associations provide medical and hospital care "in kind" as a benefit of membership, there would seem to be no inherent reason why more of them should not do so, assuming they can secure the coöperation of medical practitioners.

The possibility that commercial insurance companies now issuing "income protection" accident and health insurance may at some time in the future find themselves in position to offer policies which undertake to provide medical and hospital care "in kind" should not be ignored. In case this development comes about, a new form of group sickness insurance paralleling group industrial accident insurance, would be available. There would seem to be no reason why an employee mutual benefit association, a local trade union, or some other organized group, should not enter into an insurance arrangement with a commercial insurance company authorized to sell medical service contracts as well as cash benefit policies. It must be recorded, however, that the medical benefit corporations of California have so far had little success in writing group medical and hospital service contracts to employee beneficial associations. The incorporated hospital associations which operate in Washington and Oregon are examples of a type of commercial organizations providing what is in effect group medical and hospital insurance for industrial employees.

INFLUENCE OF INDUSTRIAL HEALTH PROGRAMS ON EMPLOYEE GROUP MEDICAL INSURANCE

The extent to which existing employee mutual benefit associations may broaden their present cash benefits to include the provision of medical and hospital care "in kind" for disease and injury not already covered by the state workmen's compensation law, may be influenced by the future development of industrial hygiene. In many large industrial plants, employee health service, aiming at the prevention of accidents and increased efficiency, is carried on wholly at the expense of the employer. In most instances, the service provided by the employer does not follow the employee beyond the walls of the plant. However, the attitude of employers toward the provision of medical and hospital care to employees for non-industrial injury and disease may in turn be influenced by the trend of workmen's compensation legislation with respect to occupational disease. A gradual broadening of the scope of compensation to include more and more types of disease is noted by persons closely in touch with this field of insurance. To some extent this broadening of scope is due to legislative enactment; to a greater degree it is due to day-by-day interpretation of the law by state workmen's compensation commissions. To the extent that the range of diseases compensable under state laws is widened and the employer's responsibility for providing medical care automatically increased, the range of diseases for which the individual must purchase medical care on his own account is correspondingly narrowed. It is within the bounds of possibility that more and more large concerns with well-organized medical departments may make the services of plant physicians and nurses available to employees in their homes, in case of non-compensable disability. Workmen's compensation laws of many states specifically authorize agreements between employers and employees for the provision of benefits additional to those conferred on the employees by the compensation act itself. Medical and hospital treatment arising out of non-compensable injury and disease are among the benefits envisaged. The agreement may provide for payment of the entire expense of the service by the employees, or for the sharing of the expense between employees and employers.

THE MEDICAL PROFESSION AND INSURANCE PRACTICE

It remains only to discuss briefly the third essential element in any successful plan of medical insurance, viz., the medical practitioner. The attitude of the rank and file of the American medical profession towards medical insurance constitutes the crux of the problem. It is not too strong a statement that the future of fixed payment medical service in the United States is largely in their hands. Will the average practitioner lend his coöperation in working out a mutually satisfactory basis for the provision of medical and hospital care to persons desirous of purchasing service on the insurance plan? It is perhaps not necessary again to emphasize that the insurance plan of providing medical service fundamentally alters the traditional relation between the physician and the patient. Instead of receiving payment directly from the person to whom the service is rendered, the physician is remunerated by the organization to which the fixed periodic payment has been made. This is equally true whether the scheme of insurance be voluntary or compulsory. The physician may be employed by the insurance organization on a salary; he may be retained by it under a contract to render service to members of the insured group at stipulated fees; or he may be under agreement to perform service at a fixed amount per person per month. "Contract practice" as defined by the American Medical Association is "the carrying out of an agreement between a physician or group of physicians as principals or agents, and a corporation, organization or individual, to furnish partial or full medical services to a group or class of individuals for a definite sum or for a fixed rate per capita."

It is the necessity for medical coöperation if a plan of medical or hospital insurance is to succeed that gives special significance to the fixed payment medical service which is being offered by a number of private group clinics in various cities of the country. Increase in the number of private group clinics is evidence of recognition on the part of the medical profession of the need for an improved form of organization for rendering efficient medical service. In their endeavor to adapt the group form of medical practice to the plan of group purchase through fixed periodic payment, medical men are supplying valuable experience by which further developments in the field of medical insurance can be tested.

Another experiment in group medical organizations, involving a transformation in the traditional economic basis of medical service is the plan of clinics operated by the county medical society. In order to relieve the individual physician of the responsibility and expense of rendering free service, it has been proposed that the county medical society should organize and maintain a clinic, where patients unable to pay for service received, would be treated by members of the medical society assigned in rotation to clinic duty. This experimental application of the group practice idea may also lend itself to the rendering of service on the basis of a fixed periodic payment.

The growing interest of nonprofit community hospitals in the possibility of offering care on a fixed payment basis is further evidence of the desire of physicians to lend their coöperation in testing the feasibility of the insurance principle. However, the number of community hospitals at present offering care on this basis is too small to justify any generalization as to future possibilities. It should be mentioned that the Judicial Council of the American Medical Association has recommended caution on the part of non-profit hospitals in undertaking to provide treatment on the basis of fixed periodic payment.

Whatever the lines of experiment that may be pursued in the attempt to provide medical care to the American people at a cost within the reach of the masses, the coöperation of the medical profession is essential.

More Than $2,000,000 Turned Over to Workers in Two Years.—Following are some facts concerning the distribution of California monies:

1. The Division of Labor Statistics and Law Enforcement collected $2,025,409 in unpaid wages during the biennial period ended June 30, 1932, compared to $2,134,783 secured in the previous biennium, a drop of $109,374, or 5 per cent. This decrease is negligible when it is considered that pay rolls in the state, for the period covered by the last biennium, dropped over 45 per cent, and that general prevailing business conditions mitigated against success.

2. The sum of $2,025,409 involved 37,001 wage claims. The average amount per claimant was $54.74. The collections during the last biennium were the largest in the history of the Division, with the exception of the total credited to the two years ended June 30, 1930. Practically all the claims were settled without resort to court action, thus saving both employers and workers time and money, and there is no fee of any kind charged to wage-earners by the State of California.

3. In adjusting these claims, the Division was instrumental in adding $2,025,409 to the purchasing power of the workers of the state, since in nearly all cases the wages would not have been collected but for the assistance of state officials.—California State Department of Industrial Relations. Report to Governor's Council, August, 1932.

An Injured Man's Care Over Nearly Fifteen Years Costs $43,227.40.—The references in previous reports to the unusually heavy surgical and hospital costs for the care of one man under workmen's compensation aroused widespread interest, especially in medical circles. Jack Schaub was injured on December 13, 1917, while employed by the Lloyd Company of Petaluma. The learned men of the healing profession said that Mr. Schaub could not live six months. A fighting heart and a determined will kept him alive almost fifteen years, much to the amazement of the doctors who have cared for him. Paralyzed from the waist down, he was practically bedridden since his injury, and always confined in the hospital, up to the date of his death, August 17, 1932. The hospital, nursing and doctors' services reached a total of $43,227.40, which undoubtedly sets the record for the cost of medical care for an industrial injury under the Workmen's Compensation Act of California, and probably for all other similar statutes. The amount named was divided as follows: Hospital, $24,943.94; nursing services, $14,435; doctors' fees, $3,848.46.—California State Department of Industrial Relations. Report to Governor's Council, August, 1932.

CANCER COMMISSION OF THE C. M. A.

The Cancer Commission was brought into being by the House of Delegates of the California Medical Association to aid in the furtherance of all efforts to combat cancer. The roster of officers and the central office of the Commission to which communications may be sent is printed in this issue of California and Western Medicine (see front cover directory). This column is conducted by the Secretaries of the Commission.

REPORT OF THE BREAST TUMORS COMMITTEE*

What Constituted Proper Treatment

II †

RADIOTHERAPY

1. It is not justifiable to depend upon radium and x-ray therapy in early breast cancer, since it is doubtful if radiation ever permanently cures breast cancer and since it is known that radical surgery does furnish a definite percentage of permanent cures.

Exceptions:

(*a*) It may be advised when patient refuses surgery.

(*b*) Where operation would be hazardous in cardiac, nephritic and pulmonary disease.

(*c*) A small group of extremely malignant growths as proved by biopsy (*e. g.*, inflammatory cancer in young women).

2. Is preoperative radiation indicated and does it increase the number of five-year nonrecurrences; and is the necessary delay in awaiting surgery a contraindication? Replies were as follows:

The weight of evidence in the literature at present is apparently to the effect that radiation adds to the number of patients well and apparently free of cancer five years after operation. The apparent improvement in statistics in five-year results varies from little or nothing (Greenough), five per cent (Memorial Hospital), marked increase (Stockholm) to double the number of five year cures (Bruttin, Lausanne). In general the procedure favored by the clinics claiming improvement in results includes both preoperative and postoperative radiation. It is the belief of the majority of the committee that, of the two, preoperative radiation is of more value than postoperative, so much so that some members advise radiation therapy before the exploration of any lump. It is possible that the answer will be found in technique now being tried at the Memorial Hospital (reported by Lee and others in *Archives of Surgery* for March, 1932) combining external radiation by x-ray or radium pack with interstitial irradiation by radon seeds.

3. As to the technique, whether large concentrated doses or small repeated doses should be given, it is deemed advisable to leave the entire problem as to treatment to the radiologist.

No statement can apparently be made at the present time as to the proper length of time between x-ray and operation. There are in general three methods possible.

(*a*) Radiation followed by operation within a very few days (*i. e.*, before reaction).

(*b*) Radiation with operation delayed until after subsidence of reaction (three to six weeks).

(*c*) Radiation, carried on until no further decrease in size of tumor is observed, even to several months, before operation is performed.

The committee believes that the question of which method is best cannot yet be settled by adequate statistical experience.

In the postoperative plan of treatment there does not seem to be any occasion or indication for the routine use of radium, as:

(*a*) There exists too wide an area to be treated.

(*b*) Where known cancer is left it is usually high in axillary space or in the supraclavicular region where, if used, a possible necrosis of the walls of the large vessels, or troublesome, persisting neuritis may follow.

Exception:

1. The use of radon seeds (interstitial method) in upper intercostal spaces when cancer is found in the upper breast quadrant (Handley).

Postoperative roentgen radiation should be carried out routinely.

The dosage and areas to be treated should be left entirely to the judgment of the trained radiologist.

It is obvious that the care of breast cancer is not complete until the patient has been followed to the conclusion of her case.

SUMMARY

1. Women should be taught that a painless lump is the first symptom of the vast majority of breast cancers.

2. Examination of breasts must be conducted with the greatest gentleness to avoid increasing metastases from manipulation.

3. In most early cases the diagnosis between cancer lumps and benign lumps cannot be made clinically but must be made by exploration.

4. In exploration:

(*a*) No breast should be explored without frozen section facilities and competent pathologist available.

(*b*) Cancer having been diagnosed by exploration, the exploratory wound should be closed after cauterization (heat or chemical) and the field, instruments and operating team re-prepared.

(*c*) Cancer having been diagnosed, the complete operation must be performed at the same sitting. Delay between biopsy and radical operation greatly reduces the chances of cure.

5. The minimum radical operation for breast cancer includes: Removal in one mass of entire breast, overlying skin, a still wider zone of deep fascia (from clavicle to epigastrium, from sternum to latissimus dorsi), both pectoral muscles, and the axillary gland bearing fat.

6. At the present time it is believed that preoperative x-ray therapy and probably postoperative, tend to increase the number of five-year cures; but a final statement of the place of radiation in the treatment of breast cancer cannot yet be made. Of the two courses of treatment, that given preoperatively is believed to be the most valuable.

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The chairman and secretary of this committee appreciate in full the coöperation given by its members. This report expresses the opinions of the majority, although minority opinions—but few in number—are also included.

Respectfully submitted,

Committee on Breast Tumors.

Lemuel P. Adams, Chairman
George D. Maner, Secretary
Lawrence Chaffin
Charles M. Fox
Verne C. Hunt
A. R. Kilgore
Andrew S. Lobingier
Orville N. Meland
John M. Rehfisch
G. Y. Rusk
Clarence G. Toland

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* Concerning work and reports of Cancer Commission of the California Medical Association, see August California and Western Medicine, pages 124 and 131.

† Part I of this report was printed in the September California and Western Medicine. (See page 208.)

STATE MEDICAL ASSOCIATIONS

CALIFORNIA MEDICAL ASSOCIATION*

JOSEPH M. KING....President
GEORGE G. REINLE....President-Elect
EMMA W. POPE....Secretary-Treasurer

OFFICIAL NOTICE

Will You Help.—The present financial need of a sick and incapacitated member of the California Medical Association caused the Council to authorize publication of a statement of the fact in the JOURNAL.

This was done with the hope that the aggregate of small contributions of many members might to some extent mitigate the distress that necessarily follows in the wake of total financial loss of all savings, and a loss of earning capacity by reason of sickness.

This is a sad case. Any member who wishes to help may do so by sending his offering to Dr. Robert A. Peers, Colfax, Councilor for the Eighth District.

EXTENSION LECTURE PROGRAM†

Available Educational Film.—The department of visual instruction of the University of California at Berkeley have available a motion picture produced by the Castle Films of New York City entitled "The Relation of Nutrition to Dental Health." Arrangements for the showing of this film may be made with Mr. Robert S. Johnson, University of California, Berkeley.

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Soiland, Albert
Templeton, H. J.
Way, Stuart C.

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Barkan, Hans

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du Bray, Ernest
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Lisser, Hans
Miller, Hyman
Piness, George
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Shepardson, H. Clare

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(d) Tuberculosis
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(b) Neurological Surgery
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Gottlieb, A.

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Kellogg, W. H.

Pediatrics
Sweet, Clifford

Pharmacology and Chemistry
Leake, Chauncey

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2. INDEX OF SPEAKERS

Harry E. Alderson, M. D., and Stuart C. Way, M. D., 320 Medico-Dental Building, 490 Post Street, San Francisco.
1. Will hold a clinic of specially selected local skin or syphilis cases.
2. Motion picture demonstration of syphilides and dermatoses of general interest.
3. Prognosis and treatment of skin cancer and pre-epitheliomatous conditions.

H. O. Bames, M. D., 512 Pacific National Building, Los Angeles.
1. Plastic Surgery of the Face. (Lantern slides.)
2. Plastic Surgery of the Breast. (Lantern slides.)
3. Plastic Surgery of the Body. (Lantern slides.)

Hans Barkan, M. D., Stanford University Hospital, San Francisco.
1. Indications for Strabismus Operations and Methods of Operating.
2. Problems in Cataract Extractions.
3. Highways and Byways in Ophthalmology—An Historical Sketch.

Leo P. Bell, M. D., Woodland Clinic, Woodland.
1. Surgery of Stomach and Duodenum.
2. Surgery of the Spleen.
3. Surgery of Large Bowel.

LeRoy Brooks, M. D., 731 Medico-Dental Building, 490 Post Street, San Francisco.
1. Children's Surgery.
2. Acute Intestinal Obstruction.
3. Surgical Treatment of Goiter.

A. Lincoln Brown, M. D., Medico-Dental Building, 490 Post Street, San Francisco.
1. The Surgery of Pulmonary Tuberculosis. (Lantern slides.)
2. Postoperative Pulmonary Complications—Atelectasis. (Lantern slides.)
3. Operation for Pulmonary Embolectomy. (Motion pictures.)

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* For a complete list of general officers, of standing committees, of section officers, and of executive officers of the component county societies, see index reference on the front cover, under Miscellany.

† Additional names of speakers and topics received too late for inclusion in this issue of California and Western Medicine will be added to the published Extension Lecture Program reprints.

Pan S. Codellas, M. D., Schroth Building, 240 Stockton Street, San Francisco.

1. The Imperial Physicians of Byzantium.
2. Nosography of the Pre-Germ Era—Description of Diseases from Medical and Nonmedical Authors.
3. The Ability of Ancient Physicians to Cope with the Morbidity of Their Times.

Ernest S. du Bray, M. D., Medico-Dental Building, 490 Post Street, San Francisco.

1. The Management of Diabetes Mellitus and Its Major Complications.
2. Criteria for Prognosis in Vascular Hypertension.
3. Insulin and Its Use for Fattening the Malnourished.

Paul A. Ferrier, M. D., Professional Building, 65 North Madison Avenue, Pasadena.

1. Present Status of Prostatic Resection.
2. Care of Prostate by General Practitioner.

Ernst Gehrels, M. D., 734 Medico-Dental Building, 490 Post Street, San Francisco.

1. Radical Surgery in Cancer of the Gastro-Intestinal Tract.
2. Surgery of Gastric and Duodenal Ulcer.
3. Cancer of Rectum—Radical Operation with Special Reference to Sphincter Preservation.

Mark Gerstle, M. D., Union Square Building, 350 Post Street, San Francisco.

1. Spontaneous Subarachnoid Hemorrhage.
2. Multiple Sclerosis—Newer Aspects.
3. Brain Abscess—Brain Tumors—Spinal-Cord Tumors.

Mark Albert Glaser, M. D., 511 South Serrano Street, Los Angeles.

1. Surgical Methods for the Relief of Pain.
2. Head Injuries.
3. Brain Tumors—Diagnosis and Treatment.

A. Gottlieb, M. D., 1240 Roosevelt Building, 727 West Seventh Street, Los Angeles.

1. The Painful Foot. (Lantern slides.)
2. Obscure Foot Lesions. (Lantern slides.)

Sylvan L. Haas, M. D., 450 Sutter Street, San Francisco.

1. Surgical Treatment of Tuberculosis of the Joints.
2. Treatment of Congenital Dislocation at the Hip Joint.
3. Treatment of Paralysis Following Anterior Poliomyelitis.

Samuel H. Hurwitz, M. D., 1214 Medico-Dental Building, 490 Post Street, San Francisco.

1. The Sinus Factor in Asthma.
2. The Use and Abuse of Drugs in Asthma.
3. The Diagnosis and Treatment of Asthma Due to Infection and Allergy.

W. H. Kellogg, M. D., State Hygienic Laboratory, Berkeley.

1. The Approval of Laboratories by the State Department of Public Health.
2. The Prevention of Diphtheria.
3. The Service Provided by the State Laboratories for Physicians in Rural Districts.

Eugene S. Kilgore, M. D., 724 Medico-Dental Building, 490 Post Street, San Francisco.

1. Newer Concepts in the Diagnosis and Treatment of Coronary Artery Disease.

William S. Kiskadden, M. D., Wilshire Medical Building, 1930 Wilshire Boulevard, Los Angeles.

1. Treatment of Cleft Palate and Lip. (Lantern slides.)
2. General Plastic and Reconstructive Surgery. (Films and slides.)

Fred H. Kruse, M. D., Fitzhugh Building, 384 Post Street, San Francisco.

1. Peptic Ulcer—Etiology, Medical Aspects and Treatment.
2. Functional Colonic Disorders—Irritable and Redundant Colons.
3. Jaundice—Clinical Differentiations, Studies of Liver Function and Relationship to Gall-Bladder Disease.

Robert W. Langley, M. D., Wilshire Medical Building, 1930 Wilshire Boulevard, Los Angeles.

1. Cardiac Problems—Their Occurrence in Surgery, Pregnancy, and Acute Infections.
2. The Diagnosis of Coronary Disease. (Lantern slides.)
3. The Diagnosis and Treatment of Cardiac Irregularities.

Sanford V. Larkey, M. D., University of California Medical School, San Francisco.

1. Primitive Medicine.
2. Superstition and Science.
3. Vesalius and Revival of Anatomy.

Chauncey D. Leake, Ph. D., University of California Medical School, San Francisco.

1. Current Aspects of Anesthesia.
2. The Historical Development of Anesthesia.
3. The Chemotherapy of Amebiasis.

H. Lisser, M. D., 240 Fitzhugh Building, 384 Post Street, San Francisco.

1. Disturbances of Adrenal Function—Diagnosis and Treatment. (Lantern slides.)
2. The Newer Pituitary, Ovarian, and Placental Sex Hormones.
3. The Usefulness of Roentgenograms and Roentgen Therapy in Endocrine Diagnosis and Treatment.

C. J. Lunsford, M. D.

(See topics under H. J. Templeton, M. D.)

C. W. Mack, M. D., The Livermore Sanitarium, Livermore.

1. Treatment of Neurosyphilis.
2. Treatment of Functional Mental Diseases.

W. W. Newman, M. D.

(See topics under Harry Spiro, M. D.)

Stanley H. Mentzer, M. D., 450 Sutter Street, San Francisco.

1. The Silent Though Acute Gall-Bladder. (Lantern slides.)
2. The Importance of the History in Cholecystitis. (Lantern slides.)
3. Gall-Stones—A Clinical and Surgical Consideration. (Lantern slides.)

Hyman Miller, M. D.

(See topics under George Piness, M. D.)

Gerald B. O'Connor, M. D.

(See topics under George Warren Pierce, M. D.)

George Warren Pierce, M. D., and Gerald Brown O'Connor, M. D., 723 Medico-Dental Building, 490 Post Street, San Francisco.

1. Treatment of Burns and Burn Scars.
2. The Management of Cleft Palates and Harelips.
3. The Possibilities of Reconstruction Surgery.

Philip H. Pierson, M. D., 1228 Medico-Dental Building, 490 Post Street, San Francisco.

1. Differential Diagnosis Between Tuberculosis and Other Pulmonary Disease.
2. Discussion of a Series of Roentgenograms and Histories of Pulmonary Cases.
3. What Laboratory Aids Are Beneficial in the Diagnosis and Treatment of Pulmonary Tuberculosis.

M. L. Pindell, M. D., Los Angeles County Health Department, Los Angeles.

1. Tuberculosis Program in Los Angeles County.
2. Childhood Tuberculosis.

George Piness, M. D., and Hyman Miller, M. D., 608 Medical Office Building, 1136 West Sixth Street, Los Angeles.

1. Practical Suggestions as to the Care of Allergic Patients in General Practice.
2. Allergy in Infancy and Childhood.
3. Hay Fever in California—Its Problems and Management.

D. Schuyler Pulford, M. D., 926 J Street, Sacramento.

1. The Present Status of the Treatment of Epilepsy.
2. Reduction Diet.
3. Surgical Pathology in the Handling of Malignancies—Fresh Tissue and the Grading of Malignanices.

J. Marion Read, M. D., 1530 Medico-Dental Building, 490 Post Street, San Francisco.

1. Some Physiologic Aspects of Blood Pressure.
2. The Nature of Grave's Disease.
3. Our Present Knowledge of Thyroid Disease.

Francis H. Redewill, M. D., 522 Flood Building, 870 Market Street, San Francisco.

1. Demonstration of the New Redewill Foroblique Coagulation Cystoscope Made by Wappler. (Display of instrument, and lantern slides.)
2. Treating Urinary Bladder Tumors with Parathyroid and the High Frequency Coagulation Current. (Colored lantern slides.)
3. Recent Advances in Urological Surgery. (Lantern slides.)

Alfred C. Reed, M. D., Union Square Building, 350 Post Street, San Francisco.

1. Treatment of Intestinal Parasites.
2. Preventive Medicine in California.
3. Medical Geography.

Esther Rosencrantz, M. D., San Francisco Hospital, San Francisco.

1. Rollier Treatment in Tuberculosis.
2. Unusual Forms of Tuberculosis.
3. Pulmonary Conditions Simulating Tuberculosis.

Albert H. Rowe, M. D., 242 Moss Avenue, Oakland.

1. Present Status of Food Allergy.
2. The Treatment of Bronchial Asthma and Hay Fever.
3. The Rational Control of Diabetes Mellitus.

John J. Sampson, M. D., 1530 Medico-Dental Building, 490 Post Street, San Francisco.

1. Cardiac Complications of Surgical Procedures.
2. Heart Disease as a Public Health Problem.
3. Coronary Artery Occlusions—Diagnosis, Treatment and Prognosis.
4. Clinical and Instrumental Diagnosis of Cardiac Arrhythmias and Their Treatment.

H. Clare Shepardson, M. D., 204 Fitzhugh Building, 384 Post Street, San Francisco.

1. Treatment of Diabetic Coma.
2. Pre- and Postoperative Treatment of the Diabetic Patient.
3. Any Phase of the General Subject of Diabetes.

John Hunt Shephard, M. D., 608 Medico-Dental Building, San Jose.

1. Carcinoma of the Breast.
2. Lesions of the Esophagus. (Lantern slides.)
3. Diseases of the Thyroid Gland.

Sydney Kinnear Smith, M. D., 230 Grand Avenue, Oakland.

1. Psychiatry and General Practice.
2. Psychoneuroses.
3. Psychoses, Psychoneuroses as a Branch of Internal Medicine.

Albert Soiland, M. D., 1407 South Hope Street, Los Angeles.

1. Observations of Uterine Cancer Treated by Radiation, and Results, During the Past Fifteen Years.
2. Our Conception of the Management of Breast Cancer.
3. Electrocoagulation and Radiation in the Treatment of Skin Malignancies.

Harry Spiro, M. D., and W. W. Newman, M. D., 450 Sutter Street, San Francisco.

1. Angina Pectoris—Treatment and Diagnosis.
2. Acute Coronary Artery Occlusion—Treatment and Diagnosis.
3. Various Cardiac Irregularities — Diagnosis and Treatment. (Moving pictures of living animal hearts).

William E. Stevens, M. D., Flood Building, 870 Market Street, San Francisco.

1. Urology in Women.
2. Urology in Children.
3. Urological Diagnosis.

Clifford Sweet, M. D., 242 Moss Avenue, Oakland.

1. The Child as a Patient. A discussion of the physiological or psychological failures that apply especially or exclusively to children.
2. Allergy During Childhood. Conditions other than asthma and generally recognized as allergic states which have frequent and important bearing upon the diagnosis and treatment of diseases of children.
3. Pediatric Surgery. Acute appendicitis in childhood—Diagnosis often more difficult than in adult; treatment.

H. J. Templeton and C. J. Lunsford, M. D., 3115 Webster Street, Oakland.

1. Treatment of the Cutaneous Malignancies. (Lantern slides and demonstration of modalities used.)
2. Ringworm of the Feet. Practical considerations and a report of the research work at the University of California.
3. Syphilis. (Lantern slides of cutaneous lesions and discussion of therapy.)

Harold Guyon Trimble, M. D., 707 Latham Square Building, 508 Sixteenth Street, Oakland.

1. Clinic on Chest Surgery (with collaboration of surgical colleague).
2. Diagnostic Lung Clinic.
3. Clinical Aspects of Heliotherapy.
4. The Problem of the Preventorium Child.

Howard L. Updegraff, M. D., 6777 Hollywood Boulevard, Hollywood.

1. Methods of Reconstructive Plastic Surgery. (Lantern slides and movies.)
2. Plastic Surgery and Hand Contractures. (Lantern slides and movies.)
3. Facial Reconstruction by Plastic Surgery. (Lantern slides and movies.)

William C. Voorsanger, M. D., 1001 Medico-Dental Building, 490 Post Street, San Francisco.

1. Early Diagnosis and Case Finding in Pulmonary Tuberculosis.
2. Undiagnosed Cough. (Illustrated.)
3. Evaluation of Surgical Procedures in the Treatment of Pulmonary Tuberculosis.

Stuart C. Way, M. D.

(See topics under Harry E. Alderson, M. D.)

Miley B. Wesson, M. D., 939 Medico-Dental Building, 490 Post Street, San Francisco.

1. Intravenous Pyelography.
2. Diseases of the Prostate and Their Treatment, Medical and Surgical.
3. Diseases of the Bladder, Symptoms and Treatment.

Rodney A. Yoell, M. D., 1444 Medico-Dental Building, 490 Post Street, San Francisco.

1. Jaundice—Its Surgical Significance.
2. Acute Phlegmonous Cholecystitis—Diagnosis and Treatment.
3. Biliary Tract Physiology in Relation to Gall-Bladder Surgery.

COUNCIL MINUTES

Minutes of the Two Hundred and Tenth Meeting of the Council of the California Medical Association at San Francisco, May 28, 1932

The following minutes were approved by the Council at its two hundred and eleventh meeting, held at Los Angeles, on September 24, 1932.

Held in the office of the Association, Room 2004, 450 Sutter Building, San Francisco, Saturday, May 28, 1932, at 9:30 a. m.

Present.—President Joseph M. King; President-elect George G. Reinle; Speaker of the House E. M. Pallette; Chairman of the Council O. D. Hamlin; Chairman of the Executive Committee T. Henshaw Kelly; Councilors William W. Roblee, R. A. Cushman, William H. Kiger, William Duffield, Fred R. DeLappe, Alfred L. Phillips, Karl L. Schaupp, Robert A. Peers, George G. Hunter, Henry J. Ullmann and Junius B. Harris; Editor George H. Kress; Secretary-Treasurer Emma W. Pope and General Counsel Hartley F. Peart.

Absent.—Dr. Henry S. Rogers.

1. **Call to Order.**—The meeting was called to order by the chairman, O. D. Hamlin.

2. **Minutes of the Council.**—Minutes of the 209th meeting of the Council were read by the secretary.

Action by the Council.—On motion of Schaupp, seconded by Duffield, and unanimously carried, the following resolution was adopted:

Resolved, That the minutes of the 209th meeting of the Council be approved as read.

3. **Publication of Transactions of Annual Meeting.**—The editor stated that the transactions of the annual session and the Council minutes which should be published in the June issue would cover fifty pages; that at the Pasadena session an extra folio of sixteen pages had been authorized for the June issue for transactions. Doctor Kress stressed the desirability of presenting all minutes of the annual session in the official journal immediately following the close of the meeting.

Action by the Council.—On motion of Kress, seconded by Reinle, and unanimously carried, the following resolution was adopted:

Resolved, That two extra sixteen page folios be authorized for the June issue of the Journal for publication of the transactions of the annual session (minutes of the House of Delegates and Council and digests of minutes of the Executive Committee which have been approved to date).

4. **Financial Statement.**—Financial statement for the month of April, 1932, was presented by the secretary and approved as follows:

April, 1932

Total receipts for April	$ 5,477.17
Total expenses for April	8,850.33
*Loss for April	3,373.16
Gain for three months	29,164.21
Total gain for 1932	$25,791.05

Cash on hand, January 31, 1932	$32,791.28	
Cash on hand, Revolving Fund	1,000.00	
Cash on hand, petty cash	50.00	
Cash on hand, Salary Fund	1,300.00	35,141.28
Total cash on hand, April 30, 1932		$60,932.33

5. **Medical Service Plan.**—The director of the Department of Public Relations presented a report on the medical service plan to individuals whose annual income is less than $2200 per annum as proposed by John H. Shephard of San Jose. Doctor Dickie submitted a letter from Doctor Shephard outlining the plan, application for membership in the Physicians' Association, and rules and by-laws governing membership in the Association and outline of provisions of the Santa Clara Benevolent Health Association.

The plan was then discussed briefly by Doctor Dickie and Doctor Gibbons, who, with the general counsel, had attended the meeting at San Jose of the Santa Clara County Medical Society. Doctor Gibbons stated that the California Medical Association was not in a position to underwrite the plan as desired by the San Jose members.

Action by the Council.—On motion of Hunter, seconded by Cushman, and unanimously carried, the following resolution was adopted:

Resolved, That the Department of Public Relations and the general counsel be instructed to continue in an advisory capacity to offer such service to the Santa Clara County Medical Association as in their judgment is deemed proper toward the working out of the plan already proposed or a similar plan.

6. **Recess of Council.**—At this point, on motion of Ullman, seconded by Kelly, and unanimously carried, a recess of the Council was declared to permit meetings of the members and directors of the Trustees of the California Medical Association.

7. **Call to Order.**—After recess, the meeting was called to order by the chairman.

8. **Medical Service Plan.**—Dr. John Hunt Shephard of San Jose outlined the plan proposed for the furnishing of medical service. Doctor Shephard stated that a considerable number of details and legal aspects of the plan had to be worked out. Doctor Shephard expressed the opinion that no group of physicians should offer any medical service plan of this type unless it was presented to and approved by the State Association.

It was the sense of the Council that the resolution of Doctor Hunter as adopted earlier in the day covered the situation.

9. **Expenditures of Association.** — The secretary read the report of the special committee on Survey of Expenditures of the Association.

Action by the Council.—On motion of Pallette, seconded by Reinle, and unanimously carried, the following resolution was adopted:

Resolved, That the report be received and the recommendations be considered individually.

A copy of the report was ordered suffixed to these minutes. The report was then read section by section and the following action was taken:

Action by the Council.—On Motion of Peers, seconded by Gibbons, and unanimously carried, the following resolution was adopted:

Resolved, That Emma W. Pope be appointed secretary-treasurer for the ensuing year at a salary of $4000 per annum.

Action by the Council.—On motion of Cushman, duly seconded, and unanimously carried, the following resolution was adopted:

Resolved, That George H. Kress be appointed editor of California and Western Medicine for the ensuing year at a salary of $4000 per annum.

Action by the Council.—On motion of Duffield, seconded by Schaupp, and unanimously carried, the following resolution was adopted:

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*The apparent increase of expenses over receipts for April to December is occasioned by the fact that the major portion of dues is received during the first three months of the year.

Resolved, That Hartley F. Peart be appointed general counsel for the ensuing year at a retainer of $4000 per annum.

In discussing the recommendation on the salary of the director of the Department of Public Relations, since the Committee on Public Relations had not yet organized or submitted recommendations it was recommended that the salary be fixed on a month to month basis.

On motion duly made, seconded and carried, the following resolution was adopted:

Resolved, That the salary of the director of the Department of Public Relations be fixed at $400 per month.

Action by the Council.—On motion of Gibbons, seconded by Harris, and unanimously carried, the following resolution was adopted:

Resolved, That the recommendation of the committee on salaries of office assistants reading as follows: "That the salaries of the office assistants, in consideration of their long service and added duties and the amounts which they receive, remain as at present," be adopted.

Action by the Council.—On motion of Gibbons, seconded by Cushman, and unanimously carried, the following resolution was adopted:

Resolved, That the recommendaiton of the committee on secretarial expense of the Cancer Commission and Department of Public Relations reading as follows: "That the secretarial expense of the Cancer Commission and the Department of Public Relations be kept as low as possible by careful allocation and combination of work in these departments," be adopted.

Action by the Council.—On motion of Hunter, seconded by Reinle, and unanimously carried, the following resolution was adopted:

Resolved, That the recommendation of the committee on rentals reading as follows: "Inasmuch as the lease on the main offices, Rooms 2004-5-7, 450 Sutter Street, San Francisco, has two years to run, no change in rent can be made at this time, but the committee recommends that in conformity with rental reductions in other buildings, a reduction should be obtained as soon as possible. It calls attention to the fact that the lease on room 2039 expires on July 14, 1932," be adopted.

Action by the Council.—On motion of Duffield, seconded by Schaupp, and unanimously carried, the following resolution was adopted:

Resolved, That the recommendation of the committee on transportation expense reading as follows: "It was the sense of the committee that as much work as possible be allocated to committees of the California Medical Association so as to minimize the necessity of meetings of the Council and of the Executive Committee, thereby saving somewhat on transportation expenses. The other customary transportation expenses for delegates to the American Medical Association, Committee on Scientific Work, Department of Public Relations, president's visits and invited speakers at the annual session are, in the opinion of the committee, justifiable and need not be altered.

Action by the Council.—On motion of Duffield, seconded by Hunter and unanimously carried, the following resolution was adopted:

Resolved, That in accordance with the recommendation of the committee a sum representing twenty-five cents per member of the California Medical Association be contributed to Lane Medical and Barlow Medical Libraries.

Action by the Council.—On motion of Hunter, seconded by Cushman, and unanimously carried, the following resolution was adopted:

Resolved, That the recommendation of the committee regarding the Committee on Public Policy and Legislation, reading as follows: "The committee commented favorably upon the minimum expenses of the Committee on Public Policy and Legislation and it feels that the Association should allocate such funds to this committee as the Council, in its wisdom, shall think fit," be adopted.

Action by the Council.—On motion of Duffield, seconded by Gibbons, and unanimously carried, the following resolution was adopted:

Resolved, That in accordance with the recommendation of the committee reading as follows: "The committee recommends the continuation of the annual prizes for the best papers submitted on research and clinical subjects," be adopted and the annual clinical and research prizes be continued.

Discussion was had of the recommendation of the committee that a directory of members be included in the February issue of the Journal and Doctor Kress called attention to the fact that the use of keyed references for county societies would conserve space and cost of typesetting.

Action by the Council.—On motion of Ullmann, seconded by Peers, and unanimously carried, the following resolution was adopted:

Resolved, That the recommendation of the committee for the inclusion of a directory list of members in the February issue be adopted, with the amendment of the use of keyed numbers to indicate county societies.

Action by the Council.—On motion of Schaupp, seconded by Ullmann, and unanimously carried, the following resolution was adopted:

Resolved, That the recommendation of the Committee on bound volumes of California and Western Medicine reading as follows: "The committee recommends that one bound copy of each volume of California and Western Medicine be provided for the office of the California Medical Association and one for the office of California and Western Medicine, but that the binding of the volumes for all officers and councilors be discontinued.

Action by the Council.—On motion of Ullmann, seconded by Duffield, and unanimously carried, the following resolution was adopted:

Resolved, That the *Pre-Convention Bulletin* be published as a section of California and Western Medicine and that reprints be sent to every delegate and alternate before the convening of the House of Delegates.

Discussion was had of the last paragraph of the report relating to California and Western Medicine which suggests a reallocation of certain items of general expense reading as follows: "Finally, the Committee suggests to the Council and the Auditing Committee, that, in the allocation of one-third of the general expense of the Association to California and Western Medicine, they may properly omit any items in these expenses, such as general meeting expenses which have no direct bearing upon Journal costs."

Action by the Council.—On motion of Kress, seconded by Harris, and unanimously carried, the following resolution was adopted:

Resolved, That the recommendations of the committee regarding California and Western Medicine be adopted and that a report on the reallocation of items of general expense chargeable to the Journal be made at the next meeting of the Executive Committee.

Action by the Council.—On motion of Duffield, seconded by Hunter, and unanimously carried, the following resolution was adopted:

Resolved, That the report of the committee, as amended, be adopted as a whole.

The editor pointed out that under the new editorial arrangement additional secretarial help would be needed at his office at Los Angeles.

Action by the Council.—On motion of Hunter, seconded by Reinle, and unanimously carried, the following resolution was adopted:

Resolved, That the editor be allowed $50 per month for secretarial expense at his Los Angeles office.

10. **Medical Service Corporation.**—The general counsel presented correspondence regarding a clinic at San Diego which had filed articles of incorporation with the Secretary of State, and reported on the action taken by the legal department.

Action by the Council.—On motion of King, seconded by Pallette, and unanimously carried, the following resolution was adopted:

Resolved, That the matter be referred to the legal department with power to act.

11. **Superior Hospital Association.** — The general counsel referred to a plan for hospital service to be furnished by a group at Sacramento and stated that copies of the correspondence had been sent to the Department of Public Relations, Doctor Graves and other officers of the Association.

12. **Mexican Medical Society.**—The general counsel read a letter regarding correspondence from the Mexican Medical Society of Los Angeles which was referred by the Los Angeles County Medical Association to the Council relating to alleged erroneous statements regarding herbalists.

Action by the Council.—On motion of Ullmann, seconded by DeLappe, and unanimously carried, the following resolution was adopted:

Resolved, That the report be accepted and a copy of the letter of the general counsel be furnished the secretary of the Los Angeles County Medical Association.

13. **Advertising Contract.** — The general counsel stated that he was revising the advertising contract of Mr. Flynn and drawing a contract to cover the southern territory for Mr. Butterworth.

The editor suggested that the general counsel write a letter to the southern councilors embodying his suggestions so that they might be considered by the councilors, and desirable changes be embodied in the contract.

14. **Utah Medical Association.**—The editor read a letter regarding the discontinuance of the affiliation of the Utah State Medical Association with CALIFORNIA AND WESTERN MEDICINE in which it was pointed out that the action taken was in line with discussion at the last annual session of the Utah Medical Association and reflected economic conditions in Utah.

15. **Advertising Agents.**—The editor read a letter in which he suggested that the names of the advertising representatives appear in the masthead box on the editorial page of CALIFORNIA AND WESTERN MEDICINE.

Action by the Council.—On motion of Gibbons, seconded by Hunter, and unanimously carried, the following resolution was adopted:

Resolved, That the suggestion of the editor for inclusion of the names of the advertising agents in the masthead box of the editorial page be adopted.

16. **Ownership of X-Rays.**—Discussion was had of publicity for the forms covering ownership of x-rays as prepared by the general counsel under instruction of the Council. It was the sense of the Council that the forms be published following the symposia on x-rays which is to appear in the JOURNAL.

17. **Advertising Rates.**—A letter on rates for advertising in CALIFORNIA AND WESTERN MEDICINE was read. No action taken.

18. **Committee on Survey of Expenditures of Association.**—Discussion was had of transportation expense of members of the special committee appointed to make a survey of the expenditures of the Association as authorized by House of Delegates resolution.

Action by the Council.—On motion of Pallette, seconded by Cushman, and unanimously carried, the following resolution was adopted:

Resolved, That the transportation expense of members of the Special Committee on Survey of Expenditures of the Association be paid.

19. **Date of Council Meeting.**—Action by the Council: On motion of Gibbons, seconded by Reinle, and unanimously carried, the following resolution was adopted:

Resolved, That the date of the next Council meeting be fixed as September 24, 1932, at Los Angeles.

20. **Adjournment.**—There being no further business the meeting adjourned.

O. D. HAMLIN, *Chairman.*
EMMA W. POPE, *Secretary.*

* * *

REPORT OF THE COMMITTEE ON SURVEY OF EXPENDITURES

To the Council of the California Medical Association:

The committee created by Resolution No. 3 of the House of Delegates of the California Medical Association "to make a detailed survey of the expenditures of the California Medical Association and of CALIFORNIA AND WESTERN MEDICINE, looking toward a reduction of such expenditures and report to the Council," submits the following report.

The committee has studied the accounts of the Association, the report of the audit of Mr. Hugh Ross, itemized lists of the expenditures of the Association compiled for it by the secretary-treasurer; it has consulted with the secretary-treasurer concerning the work and methods of organization; three of its members have consulted with the editor of CALIFORNIA AND WESTERN MEDICINE and various members have discussed the work of the Association with various officers and members thereof.

The committee spent the entire day of May 21 in a meeting at San Francisco, which was attended by the entire membership of the committee, and at this time full discussion was had of all matters felt by it to be within its scope. From these discussions the opinions and recommendations contained herein were derived.

Salaries.—The matter of salaries was first considered and the committee recommends:

1. That the present salary of the secretary-treasurer, a position that demands full-time service and that no longer is combined with any additional compensation for services rendered to CALIFORNIA AND WESTERN MEDICINE as associate editor, be increased to $4000 per year.

2. That the salary of the editor of CALIFORNIA AND WESTERN MEDICINE be fixed at $4000 per year.

3. That in consideration of the generosity and efficiency of the general counsel of the Association and the increased demands upon his services that will be made by reason of the new activities arising in the Department of Public Relations, his present retainer be continued at $4000 per year.

4. That the salary of the director of the Department of Public Relations, pending permanent delineation of his activities and any other arrangements considered advisable by the Council and the Committee on Public Relations, be fixed at $400 per month.

5. That the salaries of the office assistants, in consideration of their long service and added duties and the amounts which they receive, remain as at present.

6. That the secretarial expense of the Cancer Commission and the Department of Public Relations be kept as low as possible by careful allocation and combination of work in these departments.

Rents.—Inasmuch as the lease on the main offices, Rooms 2004-5-7, 450 Sutter Street, San Francisco, has two years to run, no change in rent can be made at this time, but the committee recommends that, in conformity with rental reductions in other buildings, a reduction should be obtained as soon as possible. It calls attention to the fact that the lease on room 2039 expires on July 14, 1932.

Transportation Expense.—It was the sense of the committee that as much work as possible be allocated to committees of the California Medical Association so as to minimize the necessity for meetings of the Council and of the Executive Committee, thereby saving somewhat on transportation expense. The other customary transportation expenses for delegates to the American Medical Association, Committee on Scientific Work, Department of Public Relations, president's visits and invited speakers at the annual session are, in the opinion of the committee, justifiable and need not be altered.

Lane and Barlow Medical Libraries.—The committee recommends that the sum of $.25 (twenty-five cents) per member allocated last year to Lane and to Barlow Libraries be so allocated again in 1932 because of the necessity of support for these libraries, particularly at this time.

Committee on Public Policy and Legislation.—The committee commented favorably upon the minimum expenses of the Committee on Public Policy and Legislation and it feels that the Association should allocate such funds to this committee as the Council, in its wisdom, shall think fit.

Annual Prizes.—The committee recommends the continuation of the annual prizes for the best papers submitted on research and clinical subjects.

Annual Directory.—Inasmuch as the Constitution provides that an annual directory be published each year, the committee recommends that this consist of an alphabetical list of members in good standing on January 1 with the names of the county in which they reside and the name of the component county society in which they hold membership, this list to be published in the February issue of California and Western Medicine.

Bound Volumes of California and Western Medicine. The committee recommends that one bound copy of each volume of California and Western Medicine be provided for the office of the California Medical Association and one for the office of California and Western Medicine, but that the binding of the volumes for all officers and councilors be discontinued.

The Pre-Convention Bulletin.—Inasmuch as only a few copies of the *Pre-Convention Bulletin* are needed annually and the expense of publication is a definite one, and as the provisions of the Constitution and By-Laws will be satisfied thereby, the committee recommends that the *Pre-Convention Bulletin* be printed as a section of the annual program number of California and Western Medicine, in which it will be available to many more members for their information.

California and Western Medicine.—The committee has made a very careful study of the relationship of the California Medical Association and its journal, California and Western Medicine, as expressed in the Constitution and By-Laws of the California Medical Association and as developed in the course of years of work.

The committee believes that the complete segregation of the activities of California and Western Medicine is not a move for economy or harmony and is not in keeping with the policy or the Constitution and By-Laws of the California Medical Association.

However, as a matter of efficiency, the committee recommends a rearrangement of the office personnel and space of the Association which will provide the editor a secretary at the office of the Association who shall be under his supervision, whose entire time shall be devoted to the work of California and Western Medicine and who shall have adequate space allotted in the office of the Association.

The proposal to move the activities of California and Western Medicine to separate quarters is not considered desirable by the committee because of the necessarily close relationship of the Association and its journal in the matter of records and accounting.

Pursuant to those beliefs, the committee further recommends (1) that Miss Comings be designated as secretary to the editor and that half of Miss Mickle's time be allotted to the work of California and Western Medicine; (2) that a monthly statement of all changes in, and the present status of all advertising accounts of California and Western Medicine be furnished the editor for his information; (3) that Miss Comings' desk be moved into the east room of the Association's office and that a notation, "California and Western Medicine, George H. Kress, Editor, Entrance 2004," be placed upon the outside door of that room.

Finally, the committee suggests to the Council and the Auditing Committee that, in the allocation of one-third of the general expense of the Association to California and Western Medicine, they may properly omit any items in these expenses, such as general meeting expenses which have no direct bearing upon Journal costs.

Respectfully submitted,

Committee on Survey of Expenditures of California Medical Association.
T. Henshaw Kelly, Chairman
Thomas Chalmers Myers
Harry H. Wilson
Percy T. Phillips
Junius B. Harris

COMPONENT COUNTY MEDICAL SOCIETIES

CONTRA COSTA COUNTY

The first autumn meeting of the Contra Costa County Medical Society was held on Tuesday, September 13, at the nurses' home of the County Hospital at Martinez.

The meeting was called to order at 8:40 p. m., Dr. S. N. Weil of Rodeo presiding.

It was our pleasure to have two guest speakers, who presented papers which were a departure from the usual scientific program. Dr. L. E. Curtis of San Francisco, in speaking on *The Physician's Obligation in Caring for Industrial Cases* went most completely into the routine of that class of practice, clearing up many troublesome questions which arise frequently to confuse the general man in caring for industrial patients. The climax of his well-prepared paper was in stating, concisely, the obligation of the physician to the profession, to the laity, and to the patient. Dr. Daniel Crosby of Oakland in *Some of the Newer Phases of the Economics of Medical Practice* gave a comprehensive account of the regimen of public health programs of several of the European countries, particularly in Germany. He stressed both the good and the bad features, making his points most impressive by apt touches of humor.

Dr. U. S. Abbott rendered a report of the state medical convention held in Pasadena, giving a delightful account of what occurred there, that the next convention will be held at Del Monte and, of greatest interest, that the president-elect is Dr. George Reinle of Oakland.

The report of progress made by the Hospital Committee was made by Dr. U. S. Abbott and amplified by Dr. L. H. Fraser.

Acting upon the suggestion of Dr. L. H. Fraser that Dr. E. W. Merrithew of Martinez be appointed a permanent member of the Committee on Hospital Investigation in an advisory capacity, Doctor Weil made the appointment.

The attendance at this meeting was one of the best of the year. There were twenty-five members and guests present: Dr. L. E. Curtis of San Francisco, Dr. Daniel Crosby of Oakland, Mrs. Merrithew, Doctors Weil, U. S. Abbott, Bishop, J. W. Bumgarner, Beede, Fraser, Beard, Daily, Sweetser, Church, Leech, Ford, Edmeads, Morken, Merrithew, Dozier, Rowell, Leggo, C. Spalding, Dietderich, Coates, and Markham.

Doctor Weil announced that the next meeting will occur on October 11, and will be held at the Hotel Carquinez, Richmond.

Clara H. Spalding, *Secretary.*

⁂

FRESNO COUNTY

The Fresno County Medical Society held its September meeting at the Fresno General Hospital at 8 p. m., September 6.

Dr. Victor E. Campbell, being approved by the state society and local board of censors, was unanimously voted a member of the Fresno County Medical Society.

Dr. Kenneth W. Butler, 133 East Yosemite Avenue, Madera, presented an application for membership.

Doctor Leland, director of the Bureau of Medical Economics of the American Medical Association, has made a special request for a questionnaire to be answered by each county medical society. This questionnaire was read to the society. It was moved by Dr. B. F. Walker, seconded by Dr. R. W. Dahlgren, that the secretary answer the questionnaire to the best of his ability and mail it to the state secretary.

Dr. J. D. Morgan gave a progress report on the formation of a doctors' credit bureau and asked for the privilege of securing proper legal advice in case the information desired cannot be obtained from the state councilor. Dr. C. O. Mitchell moved to allow $50 to defray the expenses of an attorney if necessary. Seconded by Doctor Tillman. Motion carried.

Following the business meeting Dr. William P. Lucas of San Francisco gave an excellent talk on *Some of the Growth and Development Problems in Infants and Children,* a subject on which he has spent time, thought and research. His talk was illustrated with lantern slides.

Elmer J. Schmidt, *Secretary.*

ORANGE COUNTY

On Tuesday, September 6, the first regular meeting, following the summer vacation of the Orange County Medical Association, was held at Ketner's Café, Santa Ana, at seven o'clock.

A dinner preceded a symposium on tuberculosis. Dr. F. M. Pottenger, president of the American College of Physicians, favored us with an address on *Diagnosis of Tuberculosis,* the subject being covered most thoroughly from both the clinical and laboratory standpoints, and Doctor Pottenger showed large numbers of x-ray pictures both before and after treatment of these cases. Dr. Carl R. Howson of Los Angeles then gave a most practical and valuable talk on *Hemoptysis.* He explained in detail the various causes and treatment of this important condition. Dr. Elliott P. Smart of Olive View spoke on *The Treatment of Tuberculous Cavities of the Lungs.* This paper was also illustrated by numerous x-ray films, showing the splendid results he had obtained. Dr. Merle L. Pindell of Los Angeles spoke briefly on *The Part X-Ray Has Taken in the Diagnosis of Tuberculosis.* He showed many x-rays of this condition in children, some only a few weeks of age.

A short recess followed after which the business of the association was discussed. The following committees were announced by the chairman:

Building Committee—J. M. Burlew, H. H. Johnston, F. H. Gobar, C. C. Violett, and J. L. Maroon.

Committee on Executive Legislation—H. A. Johnston, J. M. Burlew, and W. S. Wallace.

Committee on Medical Economics—D. A. Harwood, W. P. Baker, and G. Wendell Olson.

Doctor Burley, chairman of the Building Committee, stated that some progress had already been made by his committee.

Doctor Cushman of Ukiah requested a transfer of membership from the Orange County Medical Assosiation to the one in which he now resides. It was moved, seconded and unanimously carried that Doctor Cushman's request be granted.

An obituary of Dr. John Edwin McKillop, a former member of the Orange County Medical Association, was read by the secretary, as prepared by Dr. C. D. Ball, chairman of the Committee on History and Obituaries. Doctor McKillop was drowned near Santa Monica on July 25, 1932. It was then moved, seconded and unanimously carried that a copy be forwarded to Mrs. McKillop, and also be spread upon the minutes of this association.

The first readings on the applications of Dr. Carl R. Jackson of Costa Mesa and of Dr. Newell L. Moore, by transfer from Santa Clara County, were heard.

The final readings on the applications of Dr. J. R. P. Nicall of Santa Ana, Lavon Bramwell of Orange, and Lawrence F. Whittaker of Huntington Beach were made and, by ballot, they were unanimously elected to membership.

Harry G. Huffman, *Secretary.*

SANTA BARBARA COUNTY

The regular meeting of the Santa Barbara County Medical Society was held in the Bissell Auditorium of the Cottage Hospital on Monday, September 12, with President Koefod in the chair.

Dr. W. D. Sansum of Santa Barbara gave a most comprehensive and instructive paper on *Treatment of Underweight, Indigestion and Allergy with Old and New Forms of Digestive Agents,* with case reports.

The paper was discussed by Doctors Franklin, Shelton, and Ullmann.

Dr. H. L. Schurmeier of Santa Barbara then followed with a very interesting paper on *Traumatic Arthritis.*

After the conclusion of the scientific session the meeting went into executive session.

The application of Dr. Milton T. Duncan of Lompoc for membership was read and, upon balloting, he was unanimously elected into the society.

Doctor Johnson reported for the special committee to investigate the food service of the General Hospital. It was moved, seconded and carried, that the report be adopted and that copies be given to the Publicity Committee, who in turn should give them to the papers. Doctor Freidell requested that a copy be also given to Supervisor Stevens.

Mr. Remeley of the Merchants' Credit Association gave a brief outline of their plan for creating a professional division. This was discussed by Doctors Franklin, Johnson, Freidell, and Gray.

Doctor Freidell, reporting for the Public Relations Committee, moved that the plans outlined by the Merchants' Credit Association be accepted by the county society and that every member of the society be urged to become a member of the association.

Doctor Brown spoke in favor of admitting interns to membership and made a motion that the interns be declared eligible. As this is contrary to the constitution, the president declared the motion unconstitutional. The president then advised the Constitution and By-Laws Committee to prepare an amendment to the constitution to take care of this matter.

William H. Eaton, *Secretary.*

CHANGES IN MEMBERSHIP

New Members (16)

Kern County—William B. Smith.

Lassen-Plumas County—Philip W. McKenney, Walter W. Peterson.

Los Angeles County—Jesse LeRoy Bloch, Daniel Leon Elkins, A. L. Maclennan, Roy David Smith.

Orange County—Lavon Bramwell, J. R. P. Nicoll.

San Francisco County—Wilbur Bailey, Charles Benninger, Jr., Harry Mack Blackfield, Claudius Young Gates, Mary Elizabeth Mathes, Frederick Ortman Shumate.

Santa Clara County—Charles Edward Shepard.

Transfers (4)

Helen Hopkins Detrick from San Francisco to Los Angeles County.

Edward L. Sudlow, from Kern to Los Angeles County.

Harlan L. Smith, from San Francisco to Sacramento County.

Harry D. Thompson, from San Francisco to Los Angeles County.

In Memoriam

Boller, Phil. Died in Los Angeles, August 29, 1932, age 45 years. Graduate of College of Physicians and Surgeons, Los Angeles, 1911. Licensed in California, 1911. Doctor Boller was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

✣

Coll, Daniel. Died in Susanville, August 30, 1932, age 37 years. Graduate of Stanford University School of Medicine, San Francisco, 1923. Licensed in California, 1923. Doctor Coll was a member of the Lassen-Plumas County Medical Society, the California Medical Association, and the American Medical Association.

✣

Cotton, William Clement. Died in San Francisco, August 21, 1932, age 50 years. Graduate of Illinois Medical College, Chicago, 1910 and the Chicago College of Medicine and Surgery, Chicago, 1911. Licensed in California, 1919. Doctor Cotton was a member of the Merced County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

✣

Deane, Tenison. Died in San Francisco, September 1, 1932, age 66 years. Graduate of Cooper Medical College, San Francisco, 1888. Licensed in California, 1888. Doctor Deane was a member of the Yolo-Colusa-Glenn County Medical Society, the California Medical Association, and the American Medical Association.

✣

Friesen, J. Frank. Died in Los Angeles, September 8, 1903, age 52 years. Graduate of Bennett Medical College, Chicago, 1906 and the University of Illinois College of Medicine, Chicago, 1907. Licensed in California, 1913. Doctor Friesen was a member of the Los Angeles County Medical Association, the California Medical Association, and was a Fellow of the American Medical Association.

✣

Hagadorn, Jesse Lee. Died in San Gabriel, September 5, 1932, age 60 years. Graduate of University of Southern California School of Medicine, Los Angeles, 1893. Licensed in California, 1893. Doctor Hagadorn was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

✣

Wing, Peleg Benson. Died in San Diego, August 12, 1932, age 72 years. Graduate of Bowdoin Medical School, Brunswick and Portland, Maine, 1883. Licensed in California, 1901. Doctor Wing was a member of the Washington State Medical Association, the San Diego County Medical Society, the California Medical Association, and was a Fellow of the American Medical Association.

✣

Mattison, Fitch C. E. Died September 16, 1932. Graduate of University of Illinois College of Medicine, Chicago, 1888. Licensed in California, 1898. Doctor Mattison was a member of the Los Angeles County Medical Association, the California Medical Association, and was a Fellow of the American Medical Association.

OBITUARIES

Fitch Champlin Edmunds Mattison

1861-1932

Dr. Fitch C. E. Mattison, president of the California Medical Association, 1913-1914, passed away at his residence in Pasadena, September 16, 1932.

He was born in Louisville, Kentucky, May 4, 1861, of Scotch-English parents, they giving to him an inheritance which has shown throughout his long life of success and service. His preliminary education was obtained in Louisville, Annapolis, and the Maryland Institute at Baltimore. The College of Physicians and Surgeons, Chicago, gave him his medical degree in 1888. Having been interested in the drug business in Chicago previous to his study of medicine, he decided to practice in that city. One year after graduation he married Helen H. Blake. For the next ten years he enjoyed a successful and growing general practice.

Owing to the failing health of his wife he found it necessary to come to Pasadena, where he has lived for thirty-three years, devoting himself to the practice of surgery.

Fitch Mattison, as he was affectionately known, had been a successful man from the beginning of his career.

Coming to California at a time when the regular medical profession was organizing for its own betterment and scientific service to the public, Doctor Mattison was enabled to take an active part in the early constructive work.

Up to the time of his death this spirit of progress animated his every action. He helped to organize and build up every medical society in Southern California that in any way advanced medicine or dealt with public health. The part he took in organizing the General Hospital in Los Angeles and the hospital in his own city of Pasadena is well known.

He was president of the staff of the General Hospital and senior staff member of the Pasadena Hospital, operating almost daily up to the day he was stricken. As has been stated, he was president of the California Medical Association, 1913-1914. He was a trustee of the Los Angeles County Medical Association, and this last spring served as a delegate to the American Medical Association, then meeting in New Orleans. Just previous to this meeting he had served as chairman of arrangements at the State Medical Association meeting in Pasadena, giving that organization one of its best conducted meetings ever held. For many years he had been chairman of the Milk Commission of the Los Angeles County Medical Association, and as such has served the public faithfully and so efficiently that Los Angeles County can boast the purest milk in the United States. Besides being a member of his national, state, and county medical societies, he was a member of the Southern California

Medical Society, the American Academy of Medicine, the American Society for the Advancement of Science, the American Medical Milk Commission, the Los Angeles Clinical Pathological Society, Pacific Coast Association of Railway Surgeons, the College of Surgeons, and many other medical organizations. He has served on the State Board of Medical Examiners and acted as chairman when a member of the Public Health Commission of the State of California.

Doctor Mattison has been given every office and honor of a medical nature that this state, county, and city could bestow.

He is survived by one daughter, Mrs. Bess Behr, and her son, Fitch Behr, to whom he was particularly devoted.

One sister and four brothers also survive him. Two of these brothers are physicians; one, Dr. Samuel J. Mattison, was associated with him in practice.

He was a leader of men beloved by them and always happiest when able to serve them. The young man sought him out for counsel and advice, the old man for consolation and sympathy. A close friend has said of him, "He was one of the strongest men in California and one of the most beloved."

Philip Schuyler Doane, M. D.

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RESOLUTION ADOPTED BY THE BOARD OF COUNCILORS OF THE LOS ANGELES COUNTY MEDICAL ASSOCIATION, OCTOBER 3, 1932

By the death of Dr. Fitch C. E. Mattison the members of the Los Angeles County Medical Association have lost a dearly beloved friend and comrade.

Doctor Mattison held in great affection his fellows and the scientific organizations with which he was affiliated. During his long and unusually active career he was accorded every honor within the gift of the medical organizations of his city, county, and state.

He gave freely of his great energy and ability to the advancement and maintenance of the highest ideals of scientific medicine and public welfare. He was ever a leader, yet one to whom the younger men could always go for counsel and advice. His broad mind and big heart made him a friend of the poor and rich alike.

His full and fruitful life was brought to a close in the midst of active service.

His memory will always be treasured by all who have had the privilege of knowing him.

The members of the Board of Councilors of the Los Angeles County Medical Association do hereby record their sorrow, and direct that a copy of this resolution be spread upon the minutes of the Association, and that a suitable copy of the same be sent to the bereaved family, together with an expression of profound sympathy.

J. Frank Friesen

1881-1932

With the passing of Dr. J. Frank Friesen, who died suddenly September 8, 1932, the Los Angeles Society of Ophthalmology and Otolaryngology has suffered a threefold loss. Doctor Friesen was one of our most energetic members, our efficient secretary for three years, and our honored president at the time of his demise.

Doctor Friesen was 52 years of age. He attended Bethel College at Newton, Kansas, was graduated by Kansas City College of Pharmacy in 1903, and thereupon began the study of medicine, the practice of which he entered on receiving a diploma at the University of Illinois, medical department, in 1907. In the course of postgraduate training for his specialty, Doctor Friesen worked in the Massachusetts Eye and Ear Infirmary, Harvard Postgraduate School, and the otorhinologic department of Rush Medical College. He had practiced in Los Angeles since 1922 on the staffs of the Los Angeles County, California Lutheran and other hospitals.

J. FRANK FRIESEN

In 1931 he was elected to membership in the American Academy of Ophthalmology and Otolaryngology and at the time of his death he was secretary of the Pacific Coast Otolaryngologic Society.

He will be remembered particularly for his ready coöperation in maintaining high ethical standards, his unflagging interest in professional progress and his undismayed efforts in the face of difficulties.

The Los Angeles Society of Ophthalmology and Otolaryngology will feel his loss very keenly. The members extend to his widow assurances of deepest sympathy and condolence.

F. H. Brandt, M. D.,
Los Angeles.

THE WOMAN'S AUXILIARY TO THE CALIFORNIA MEDICAL ASSOCIATION*

Councilors for Year 1932

First District:
Mrs. E. A. Blondin, 1202 Golden Gate Drive, San Diego.
Second District:
Mrs. Clifford Wright, 454 South Irving Boulevard, Los Angeles.
Third District:
Mrs. C. P. Proudfoot, 738 Higuera Street, San Luis Obispo.
Fourth District:
Mrs. N. W. Barnes, 1536 North Hunter Street, Stockton.
Seventh District:
Mrs. Louis H. Dyke, 6008 Ross Street, Oakland.
Eighth District:
Mrs. F. N. Scatena, 1400 Forty-first Street, Sacramento.
Councilors-at-Large:
Mrs. Willard H. Newman, 2568 Albatross Street, San Diego.
Mrs. Eliot Alden, 2008 North Serrano, Los Angeles.
Mrs. Dewey Powell, 1617 North Hunter Street, Stockton.
Mrs. R. A. Peers, Colfax.

Committee Chairmen

Membership and Organization:
Mrs. Charles Stevens, 2325 Santa Barbara Street, Santa Barbara.
Program:
Mrs. Thomas Clark, 40 Ross Circle, Oakland.
Publicity and Publication:
Mrs. Clifford Wright, 454 South Irving Boulevard, Los Angeles.

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*As county auxiliaries to the Woman's Auxiliary to the California Medical Association are formed, the names of their officers should be forwarded to Mrs. Clifford A. Wright, chairman of Publicity and Publications Committee, 454 South Irving Boulevard, Los Angeles. Brief reports of county auxiliary meetings will be welcomed by Mrs. Wright and must be sent to her before publication takes place in this column. For lists of state and county officers, see advertising page 6. The Council of the California Medical Association has instructed the editors to allocate one page in every issue for Woman's Auxiliary notes. The roster of state and county auxiliary officers is printed in the directory lists on advertising page 6 of this issue of California and Western Medicine.

Public Health:
Mrs. A. M. Henderson, 1600 M Street, Sacramento.
Associated Organizations and Social Welfare:
Mrs. Louis H. Dyke, 6008 Ross Street, Oakland.
Convention and Hospitality:
Mrs. Thomas Clark (chairman), 40 Ross Circle, Oakland.
Mrs. William H. Sargent (vice-chairman), 109 Beechwood Drive, Oakland.

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News

The auxiliaries will be starting on their activities next month, and this seems a fitting time to urge coöperation in gathering information for California and Western Medicine. News items should be in the possession of the chairman of Press and Publications by the tenth of the month. It is earnestly desired that all activities of the county auxiliaries be sent in promptly. If the president of each county auxiliary would appoint a press and publicity chairman this would be a great help. It is an inspiration to know what is being done in other localities.

The exhibition of the state scrap books at the convention in New Orleans was one of the outstanding features of the meeting. Mrs. M. P. Overholser, national chairman of Press and Publicity, recommends the keeping of such a book. She says: "Secure three copies of every mention of the activities of your organization—social, program, welfare, or whatever it may be. Keep one copy for your own county scrap book, send two to your state chairman, who will keep one for the state book and send the other to the Regional Press and Publicity chairman of the western district, Mrs. George W. Miel of Denver, Colorado. These books will be on exhibit at the convention in Milwaukee next year. Will you not help your state to have a splendid showing of the work and play you have done?"

Mrs. Overholser's news letter for September has much of interest from other states. Lack of space prevents using the letter in its entirety, but the following will be of interest.

From the Historian's Corner, by Mrs. W. E. Follis, *Kentucky Auxiliary Quarterly*, July, 1932:

"What unwritten substantiated facts do you know or can you secure about medical history of your county? For the professional and civic justice due the medical pioneers of your county and for the accurate record of Kentucky, I urge you to delve deep and bring these facts to light. Our State Medical Association has asked us to do research for them. This is a definite commission to each individual member of the auxiliary, and we must measure up to the faith our physicians have placed in us. So bring your medical history of Kentucky to your county auxiliary historian or your county president, who will pass it along to the historian."

Many things of rare worth could be found for our own California state scrap book. The value of these compiled bits of news and history will increase as time goes on. Many of you will remember the talk on medicine in this state last year at the state convention, given by one of the early San Francisco men. Many of the things he said regarding medicine in the early days here would be well worth recording for future reference.

Mrs. Overholser's letter also states: "Mr. Doyle E. Hinton, executive secretary of the Anti-Tuberculosis Educational Campaign of Delaware, in a letter to Mrs. Robert W. Tomlison, president of the Delaware auxiliary said:

" 'The Woman's Auxiliary through you, Mrs. Tomlison, as its president, rendered this office, in the promotion of this campaign, the finest type of assistance; and without your having been made general chairman of the campaign, linking up your official capacity as a director of this society and that of president of the Woman's Auxiliary, this campaign could never have succeeded in either scope or effect as it did.

" 'There is no organization in this state holding the strategic position to further the health and well-being of the citizens, in an educational way, which is held by the Woman's Auxiliary.' "

The Woman's Auxiliaries have many possibilities of far-reaching influence for good in the community in which they are well established.

Mrs. Clifford A. Wright,
Chairman Publicity Committee.

* * *

Copy from a recent number of the *California Monthly:*

"Too many die.

"Of the million and one-half Americans who died last year, two hundred thousand might have been saved for an additional one to ten years of life, and the national income have been increased at least $250,000,000 if physicians had been able to apply their knowledge of preventable diseases to the lives of these individuals."

This statement was made by Dean Langley Porter of the University Medical School in a recent public address. He said that thirty-nine out of every one thousand deaths in the United States are premature and result from preventable causes. This waste of life may be stopped by more intensive education of the public in the common-sense facts of health and personal hygiene which medical research has provided.

In regard to the high cost of medical care, he explained that a national committee is now making a study of the conditions, but added: "The high cost of medical care is an unfortunate expression. The high cost is not of medical care, but of sickness and of the economic loss incident to sickness. You would be surprised to know how much free work doctors do.

"We do not hear of any campaign against the high cost of tobacco, yet the people of this country spend as much and more for cigars and cigarettes every year than it takes to sustain all our hospitals. Nor do we hear any outcry against the high cost of beauty parlors, yet more than $2 goes for cosmetics to every dollar spent for health.

"Did you ever hear of a 'physician Prince' as you hear of a 'Merchant Prince'? Did you ever know of a hospital that had any melons to cut—any need to hide profits or to dodge the income tax by declaring stock dividends and other evasive devices used by many a corporation?

"Wouldn't it be better if the merchant princes and captains of industry who are so concerned about the high cost of medical care to their employees would recast their economic relations so that employees could earn a wage large enough to meet the legitimate costs of those sicknesses which attack them and their families?"

Ella Clark Dyke,
Chairman of Publicity and Publications Committee.

NEVADA STATE MEDICAL ASSOCIATION

A. C. OLMSTED, Wells	President
O. HOVENDEN, McGill	President-Elect
J. H. HASTINGS, Pioche	First Vice-President
E. E. HAMER, Carson City	Second Vice-President
HORACE J. BROWN, Reno	Secretary

COMPONENT COUNTY MEDICAL SOCIETIES

WASHOE COUNTY

The Washoe County Medical Society met in its regular session Tuesday, September 13, in the Nevada State Building, Reno. There were twenty-five members present.

Applications of A. W. MacPherson, graduate of the College of Evangelists, California; Frank W. Samuels, graduate of the Cornell College, New York City; and Henry A. Kimmel, graduate of the University of Pennsylvania, all were referred to the Board of Censors and by motion were unanimously accepted into the Washoe County Medical Society.

Resolutions on the death of Dr. Don Coll of Susanville, California, who died August 30 at his home following an intermittent illness of several months preceding, were read, a copy of which is appended. The same was ordered spread on the minutes of the society and a copy sent to his wife and a copy to his home paper.

A committee was appointed of Doctors Hund, West, and M. A. Robison to confer with the registrar of the nurses' bureau with reference to part-time nursing service for convalescent patients, accessibility to drug stores during night hours, and for a physicians' ambulance.

Dr. I. S. Egan presented a letter to the society, which was read, in which for reasons of his own he tendered his resignation from state and county societies. His resignation was unanimously accepted.

Following this order of business the society was addressed by Dr. Horace J. Brown, member of the State Board of Medical Examiners. Doctor Brown gave a ***Résumé of the Work of the Board of Medical Examiners*** the last few years. This résumé was certainly interesting as it showed that, with reference to handling prospective applicants for medical license in Nevada, an entire change in the procedure of investigations with reference to the personal habits and character, standing in his community, preliminary education, medical education, class of practice done, and when and where. The result of these investigations into the applicants life and medical history has had the effect that upward of thirty applicants within the last few years who desired to browse in the succulent medical pastures of Nevada failed to get in either through the gate or by jumping over the fence. This fence-jumping act by way of admission is now at an end and Nevada today stands equal in medical requirements with the strictest state in the Union. Doctor Brown's talk was well received and the members felt considerable elation to learn of our progress along the medical practice act lines.

The president instructed the Committee on Health and Legislation, consisting of Doctors Paradis, Dwight Hood and M. A. Robison, to get busy along the lines of medical legislation and other conditions which might be of advantage to the medical profession of Nevada.

Dr. A. R. DaCosta read a copy of a draft memoranda with reference to the appointment of the staff for the new Washoe General Hospital, soon to be completed. A reprint of the memoranda was ordered and copies to be distributed to all members of the Washoe County Society.

THOMAS W. BATH, *Secretary.*

* * *

DAN COLL—IN MEMORIAM

WHEREAS, The sad and untimely death of our beloved associate, Dr. Dan Coll of Susanville, California; and

WHEREAS, In the death of Doctor Coll the city of his field of practice and the profession at large have lost a rare and beloved personality, endowed with skill and possessing the knowledge of his day and generation; being young in years, yet having the divine gift of understanding of the human heart and possessed of skill to administer to the needs of the body; and

WHEREAS, The sudden death leaves sadness and despair for one who has suddenly passed through the Western Gate which no eulogy uttered by tongue or written by pen can add to or detract from the splendid personality with which he was endowed; now therefore be it

Resolved, That we, the members of the Washoe County Medical Society, hereby, through these feeble resolutions, express our deep sorrow for his departure and urge that all members of his profession look upon his kindliness and efficiency as a physician as qualities to be emulated and achieved; and be it further

Resolved, That we convey our sincere sympathy to his bereaved wife and family.

J. LaRue Robinson
Dwight L. Hood
Thomas W. Bath

News

Nevada Medical Association.—The twenty-ninth annual session of the Nevada State Medical Association was held at Bowers Mansion, Friday, September 23, and Saturday September 24, 1932.

Headquarters were at the Golden Hotel, Reno.

President Olmsted called the session to order and Dr. Horace J. Brown officiated as secretary. Reports of the session will be printed in a later issue of CALIFORNIA AND WESTERN MEDICINE.

Bacteriology of Pus.—Norton emphasizes the fact that the proper collection of material is essential for a satisfactory laboratory examination. Skin contaminants must be rigidly excluded. Too great emphasis cannot be placed on this point, if the laboratory worker is to give the clinician a true picture of the bacteriology of the material submitted. The first step in laboratory examination of pus is, under all conditions, the preparation and examination of a proper smear on a microscope slide. Care should be taken to make thin film preparations. A stain according to Gram's method gives the most valuable indication of any single stain but will not, of course, detect the tubercle bacillus. Hence it is extremely desirable for the laboratory to be furnished with accurate information concerning the source of the material. Various modifications of the original Gram method have been introduced. The author's experience has been that careful attention to the details of the technique is fully as valuable in yielding consistent results as any modification of the solutions employed. This is particularly true in regard to the alcohol (or acetone) decolorization. In "old" pus the Gram stain may be uncertain. In many laboratories the methylthionin chlorid stain is used for the detection of gonococci. While this is reasonable under special conditions in which the clinician and the laboratory work in close coöperation, it is not to be recommended. Furthermore, it is highly desirable to make a Gram stain if organisms resembling the gonococci are seen in the material submitted, so little is gained by the use of methylionin chlorid. For pus from tuberculous conditions, the Ziehl-Neelsen method, or some of its modifications, is in general use. The methylthionin chlorid stain may be used for detecting organisms resembling diphtheria bacilli, while either methylthionin chlorid or gentian violet is useful for staining the spirochetes and fusiform bacilli characteristic of Vincent's infection. — *Journal of Laboratory and Clinical Medicine.*

Yawning.—Pieper advances the theory that yawning is nothing but a respiratory movement, which is produced by a reduction in the nervous excitability of the respiratory center. Considered from the evolutional point of view, the yawning center is a lower form of the respiratory center, and the latter ordinarily inhibits the yawning. When, however, during fatigue these inhibitions are reduced, the yawning center dominates temporarily. Thus one does not yawn to counteract fatigue but as a result of fatigue. —*Deutsche medizinsche Wochenschrift.*

Inadvisability of Simultaneous Use of Ethyl Chlorid Spray with Galvanocautery.—Dietel shows that under certain conditions ethyl chlorid can become inflammable. He admits that the likelihood of a fire is somewhat remote but nevertheless thinks that the fire danger is sufficient to contraindicate the simultaneous use of the ethyl chlorid spray and the galvanocautery. —*Deutsche Med. Wochenschrift.*

MISCELLANY

Under this department are ordinarily grouped: News; Medical Economics; Correspondence; Twenty-five Years Ago column; Department of Public Health; California Board of Medical Examiners; and other columns as occasion may warrant. Items for the News column must be furnished by the fifteenth of the preceding month. For Book Reviews, see index on the front cover, under Miscellany.

NEWS

Coming Meetings—

American Medical Association, Milwaukee, Wisconsin, June 12-16, 1933, Olin West, M. D., 535 North Dearborn Street, Chicago, secretary.

California Medical Association, Del Monte, April 24-27, 1933, Emma W. Pope, M. D., 450 Sutter Street, San Francisco, secretary.

American Public Health Association, Washington, D. C., October 24-27, Kendall Emerson, M. D., 450 Seventh Avenue, New York, acting executive secretary.

American College of Surgeons, St. Louis, October 17-21, Franklin H. Martin, M. D., 40 East Erie Street, Chicago, Secretary.

American Public Health Association to Meet in Washington.—The sixty-first annual meeting of the American Public Health Association will be held in Washington, D. C., October 24 to 27, 1932. Other health organizations, recognizing the value of close contact with the association, have chosen the same time and place for their annual conferences. This year the American Social Hygiene Association, the American Association of School Physicians, the International Society of Medical Health Officers, the Conference of State Laboratory Directors, Conference of State Sanitary Engineers, and the Association of Women in Public Health will hold their conferences in Washington at or about the same time.

Health Officers to Meet in San Diego.—The Department of Public Health of the California League of Municipalities will hold its regular annual meeting in San Diego September 26 to 29, 1932. This meeting will be held as usual in conjunction with the annual convention of the League of California Municipalities. Dr. W. B. Wells of Riverside, president of the department, has held many conferences with the members of the program committee and a tentative program has been prepared.

California State Medical Library.—The California State Medical Library began active operation on July 1, 1932, with the establishment of a southern division in Los Angeles in conjunction with the Los Angeles medical department of the University of California, 737 North Broadway, and in San Francisco in conjunction with the University of California Medical School Library. Subscriptions to 118 different special medical periodicals have been commenced by the two branches of the State Medical Library, and approximately 180 physicians in scattered communities throughout the state are already receiving these specialty journals by circulation through the two offices of the California State Medical Library.

Valuable Additions to Medical Library of State of California.—Dr. LeRoy Crummer, professor of medical history and bibliography in the University of California Medical School, has made a valuable addition of a number of rare old medical books, including one incunabulum (Gerson. *De pollutione,* Cologne, 1480) and a number of old prints relating to medical history, to the Crummer Collection of Medical History at the University of California Medical School Library. These new gifts from Doctor Crummer have been given jointly to the University of California Medical School Library and the California State Medical Library.

Presidio Doctor to Give Courses for University of California School.—Announcement was made today by Dean Langley Porter of the University of California Medical School that Colonel C. J. Bartlett of the medical corps of the United States Army, now stationed at the Presidio, has been placed in charge of medico-military science and tactics at the Medical School.

As soon as the present generation of medical students is graduated medico-military science and tactics will be discontinued, unless national finances improve in the meantime. Colonel Bartlett will see that those students already started in the curriculum are allowed to complete it.

Colonel Bartlett is an alumnus of the University of California, having received his M. D. degree in 1898. His father, Columbus Bartlett, was a regent of the University of California from 1887 to 1896, and his uncle, Washington Bartlett, was a regent of the University and governor of the State of California.

Annual Scripps Metabolic Clinic Lecture.—Dr. David P. Barr, professor of medicine, Washington University, St. Louis, Missouri, has been selected to deliver the annual Scripps Metabolic Clinic lectures and clinics in La Jolla January 5, 6, and 7. The previously invited guests have been: Doctors W. McKim Marriott, Elliott P. Joslin, Cyrus C. Sturgis, Leonard G. Rowntree, Henry A. Christian, and O. H. Perry Pepper. The invited speakers are brought to La Jolla each year under the auspices of the Scripps Metabolic Clinic, and the clinics are given for the members of the San Diego County Medical Society. It has been found that members derive the most practical benefit from a series of afternoon bedside clinics which are of a practical nature.

The Committee on Arrangements is appointed from members of the society.

Pharmacopeial Admissions and Deletions. — The Subcommittee on Scope, of the Committee of Revision of the U. S. P. XI, has announced its first decisions on what is commonly spoken of as "admissions and deletions." The members of the subcommittee have diligently pursued their part in the work of revision and their discussions and conclusions cover almost four hundred pages of subcommittee bulletins. In addition to this, the subcommittee has held three personal conferences when titles were discussed and many decisions reached.

Lists are announced for the information of members of the medical and pharmaceutical professions, and the general chairman invites a free discussion of these first decisions. Comments received by him will be issued in the official circulars under the author's name and referred to the subcommittee for their consideration. General statements are of little help to the committee. Criticisms or comments should deal with specific items and offer, if possible, facts to support the opinion expressed.

Comments should be sent to the general chairman, E. Fullerton Cook, Forty-third Street and Woodland Avenue, Philadelphia, Pa.

Clinical Congress, American College of Surgeons.—The twenty-second annual Clinical Congress of the American College of Surgeons will be held in St. Louis, October 17-21, with headquarters at the Jefferson Hotel. . . . Hospital standardization conferences under the direction of Dr. Malcolm T. MacEachern will be held during the first four days. Four special programs have been prepared, dealing respectively with fractures, curability of cancer, industrial medicine and traumatic surgery, and the teaching of surgery and the surgical specialties. Medical motion pictures will be on daily exhibition. . . . On Friday evening the convocation will be held for the incoming Fellows, and the Fellowship address on "Some New Things in Physics" will be delivered by Robert Andrews Millikan, Ph.D., LL.D., Sc.D., Nobel Laureate. Dr. J. Bentley Squier will deliver the presidential address entitled, "The American College of Surgeons—Twenty Years of Ambitious Effort."

San Francisco Polyclinic and Post Graduate College.—The San Francisco Polyclinic and Post Graduate College at 1535 Jackson Street, an agency of the Community Chest, responding to numerous requests, has just installed a department of orthodontics, where children and adults afflicted with dental deformities may receive service at clinic rates. As all other clinics of this type in San Francisco are overloaded this is a welcome addition to the city's facilities. The San Francisco Polyclinic has been in existence for over forty years. It is a nonprofit organization, staffed by graduate physicians and dentists and devoted entirely to the public interests.

Dr. R. A. Cushman, Director of the Mendocino State Hospital.—Dr. Ruggles A. Cushman, a member of the Council of the California Medical Association, in July was appointed medical superintendent of the Mendocino State Hospital. Doctor Cushman was assistant superintendent of the institution some twenty-eight years ago. His health failing he went to Orange County, and now has returned to take up his former work. The Ukiah *Republican Press* of September 14 printed a two-column article concerning the institution, and from this the following quotation is taken:

"The Rolph administration certainly should feel satisfied over the manner in which affairs at Talmage are being handled by Dr. R. A. Cushman. There is no getting away from the fact a lot of friction prevailed at the big institution until the coming of Doctor Cushman. . . . Doctor Cushman took charge in July. He has been at Talmage about sixty days, but the transformation is complete. Everything is working nicely. The atmosphere about the institution is friendly and all is now going along in perfect fashion. Doctor Cushman is admittedly the right man in the right place and Ukiah is very glad the turmoil is ended at Talmage. . . ."

A System of General Surgery in Motion Pictures.—A rather extensive series of motion pictures in which large numbers of major operations in surgery are outlined in considerable detail has been produced by Jacob Sarnoff, M. D., formerly associate in anatomy, Long Island College Hospital. Full information can be obtained by writing to the producer at 1406 Albermarle Road, Brooklyn, New York.

American Board of Obstetrics and Gynecology.—The next written examination of the American Board of Obstetrics and Gynecology will be held on Saturday, October 22, at 2 p. m., in nineteen different cities of the United States and Canada. In order to reduce traveling expenses for candidates special arrangement may be made through the secretary for taking the written examination at any city other than those regularly specified where there is a diplomate who can be empowered to conduct the examination. This arrangement does not apply to the general, clinical examination. The next general, oral and clinical examination is to be held in conjunction with the meeting of the Pacific Coast Society of Obstetrics and Gynecology at Los Angeles on December 7, provided there are sufficient applicants. . . . For application blanks and other information, address Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburgh, Pennsylvania.

Certified Milk Leaflet.—An excellent leaflet on methods and standards for the production of certified milk has been brought off the press by the American Association of Medical Milk Commission. Copies may be obtained by physicians who are interested by writing to the American Association of Medical Milk Commissions, 360 Park Place, Brooklyn, New York.

University Southern California Medical School.—"The Opening Lecture" of the School of Medicine of the University of Southern California was given by Dr. Howard C. Naffziger, professor of surgery, University of California Medical School, on Monday, September 19, at 11 a. m., in Porter Hall, School of Law Building, University Park, Los Angeles.

Meeting of the Southern California Medical Association.—The Southern California Medical Association will hold its semiannual meeting on October 28 and 29 at Riverside.

The meetings of this organization are open to all regular registered physicians of Southern California. A banquet will be held on Saturday evening, October 29, followed by a golf tournament on Sunday morning at the Riverside Country Club.

The following is an incomplete list of the program:

Injection Treatment of Rectal Diseases—An Economic Problem—William H. Daniel, M. D., Los Angeles.

Renal Infections—J. J. Crane, M. D., Los Angeles; George F. Schenck, M. D., Los Angeles.

The Treatment of Peptic Ulcer with Gastric Mucin—Grant H. Lanphere, M. D., Los Angeles.

The Friedman Test for Pregnancy—George D. Maner, M. D., Los Angeles; Roy W. Hammack, M. D., Los Angeles.

Hypophyseal Infantilism—E. Kost Shelton, M. D., Santa Barbara.

The Irritable Colon—John H. Fitzgibbon, M. D., Associate Professor of Medicine, University of Oregon Medical School.

The Natural History and Course of Heart Disease—Major William C. Munly, U. S. A. Medical Corps.

Lipiodol Bronchography in Pulmonary Diseases—Dwight W. Davis, M. D., Los Angeles.

Lower Mortality and Earlier Recovery Resulting from Closer Coöperation Between Surgeon and Internist—H. D. Van Fleet, M. D., Los Angeles.

The Restoration of the Continuity of the Gastro-Intestinal Tract, with Report of Cases—Harlan W. Shoemaker, M. D., Los Angeles.

The Surgical Significance of Spontaneous Hematoma of the Rectus Abdominis Muscle—Ray B. McCarty, M. D., Riverside.

Spinal Anesthesia, Review of a Series—Thomas A. Card, M. D., Riverside.

The Physiology of the Heart. A talking motion picture. By Ajex Carlson and Arno B. Luckhart, Chicago, Illinois.

Los Angeles County Heart Association.—A series of clinical lectures on heart disease was arranged by the Los Angeles County Heart Association commemorating the one hundredth anniversary of the epochal work of Dominic John Corrigan on heart disease. The meetings were held on Friday, September 23, in morning, afternoon, and evening sessions, and on Saturday morning, September 24. Robert W. Langley, M. D., acted as secretary of the conference.

MEDICO-LEGAL

Practice of Dentistry by a Corporation

An interesting opinion was recently handed down by the California District Court of Appeal, First District, Division 2. It has to do with an appeal from a ruling made by the California Board of Dental Examiners. Because of its bearings to the practice of medicine by corporations, it is worthy of perusal by physicians. The following excerpt is from Volume 98, Number 26 of the *Journal of the American Medical Association:*

(Parker v. Board of Dental Examiners of State of California (Calif.), 1 P. (2d) 501)

"Painless Parker Dentist," a corporation, was organized to "conduct, own, operate and control dental offices." E. R. Parker, one of its incorporators, a licensed dentist, changed his name to "Painless" Parker, by court decree. Apparently, the corporation never acted in any respect other than to appoint Painless Parker, the incorporator named above, as its "manager and chief surgeon." The corporation never paid a dividend nor had any assets or funds on hand. Shortly after the incorporation of "Painless Parker Dentist," the Associated Dental Supply Company was organized as a corporation to deal in all kinds of dental supplies. When proceedings to revoke Painless Parker's license were instituted, fourteen dental offices seem to have been operating in California by dentists using "the E. R. Parker system," all owned or leased by the Associated Dental Supply Company, but these offices were in turn "leased" by that company to the Painless Parker Dentist corporation. Notwithstanding this subleasing of these offices, however, the Associated Dental Supply Company seems to have dealt directly with the managers of these local dental offices, and these managers deposited all the receipts of their respective offices to the credit of the Associated Dental Supply Company. Painless Parker, the individual, seems to have supervised the operation of all the offices for the benefit of the Associated Dental Supply Company. He employed a licensed dentist as the local manager of each office, and each such local manager employed licensed dentists to perform all necessary dental operations. Painless Parker Dentist, the corporation, was apparently the lessee of these offices, and the term "Painless Parker Dentist" appeared on the doors, windows and letterheads, although later the term "dentists using the E. R. Parker system" was substituted. But Painless Parker, the man, managed these offices apparently for the benefit of the Associated Dental Supply Company.

Painless Parker's conduct was deemed unprofessional by the California Board of Dental Examiners, and after notice and hearing it revoked his license to practice dentistry. Parker petitioned the superior court, city and county of San Francisco, to set aside the revocation, which the court refused to do. He then appealed to the District Court of Appeal, First District, Division 2, California.

Section 11, Act 2048, Deering's General Laws, 1923, the Dental Practice Act, declares the practice of dentistry to include the activities of anyone "who manages or conducts as manager, proprietor, conductor, or otherwise a place where dental operations are performed." Section 13 of that Act defines as unprofessional conduct "aiding or abetting any unlicensed person to practice dentistry unlawfully." The conduct of Parker, contended the board, was "unprofessional" in that he aided and abetted an unlicensed person, the Painless Parker Dentist corporation, to practice dentistry "by permitting, allowing and authorizing said corporation to conduct, own, operate, and control dental offices throughout the state. . . . where dental operations were performed, and carry on the practice of dentistry therein." The board contended that conducting, owning, operating, and controlling dental offices constituted the practice of dentistry within the purview of Section 11 of the Dental Practice Act, supra; that a corporation cannot be licensed to practice dentistry; and that any licensed dentist who aids a corporation in performing any of the acts named above is aiding "an unlicensed person" to practice. Parker claimed, however, that the term "unlicensed person," as used in the prohibition of "aiding and abetting any unlicensed person to practice dentistry unlawfully," refers only to natural persons, who might be licensed under the Act, and not to a corporation owning or operating a dental office, and that the provisions of Section 11 are unconstitutional so far as they purport to prohibit an unlicensed person from managing the purely business or economic affairs of a dental office.

Bearing in mind, said the District Court of Appeal, that the ultimate purpose of the Dental Practice Act is to bring about and insure skill and proficiency in the practice of dentistry, Section 11 as construed by the board would be unconstitutional, because it would place unreasonable restrictions on the conduct of a lawful business. To support this statement the court quoted from State v. Brown, 37 Wash. 97, 79 P. 635, decided in 1905. In that case the Supreme Court of Washington had under consideration a provision of the Dental Practice Act of Washington, which made it a misdemeanor for an unlicensed person to "own, run, operate or cause to be operated, or manage a dental office." The Washington court said, in part, as follows:

"To own and manage property is a natural right, and one which may be restricted only for reasons of public policy, clearly discernible. . . . But, we are unable to say or perceive that the health, moral, or physical welfare of the public, or any of the personal or property rights of its individuals, are endangered by the ownership and management of a dental office, so long as those employed therein to do the actual dentistry work are qualified and licensed as by law required."

The Supreme Court of Washington in its exposition of the supposed unreasonableness of the Washington statute described the hypothetical case of a supposed widow of a licensed dentist, who assumed control and management of the business of the office of her deceased husband, and who, though she employed none but licensed dentists to perform the dental work, would be chargeable under the strict terms of the Act with practicing dentistry without a license. Other illustrations, said the California District Court of Appeal, might be added. "The manager or proprietor of a place where dental operations are performed," said the court, "would include the manager and owner of every hospital and clinic permitting such operations, the many charitable agencies maintaining clinics, the infirmaries and guilds maintained and operated by the students in universities and colleges, the many dental clinics maintained by parents' organizations for the benefit of school children, as well as the owners and managers of buildings where such operations are performed."

The California court found further authority for its holding, in Messner v. Board of Dental Examiners, 87 Calif. App. 199, 262 P. 58, decided in 1927, in which the court of the third appellate district annulled an order suspending the license of a dentist on the charge that an unlicensed person was the "manager" of his office. In that case the court said, in part, as follows:

"Cohn had charge of the purely business end of the dental office, . . . but there is no evidence that he had or exercised the slightest control or direction of the professional work performed in such office. . . . A reasonable construction of the quoted provisions of the statute appears to be that, to come within the terms thereof, one must in some manner, to some extent, directly or indirectly, control or direct some professional service of the kind that dentists are licensed to render."

The court found itself in full accord with and quoted from State Electro-Medical Institute v. State, 74 Neb. 40, 103 N. W. 1078, decided in 1905, as follows: .

"There was no necessity of legislation to prohibit corporations, as such, from practicing medicine. It is impossible to conceive of an impersonal entity 'judging the nature, character and symptoms of the disease,' or 'determining the proper remedy,' or giving or prescribing the application of the remedy to the disease. Members of the corporation, or persons in its employ, might do these things, but the corporation itself is incapable to do them. The qualification of a medical practitioner is personal to himself. The intention of the law is that one who undertakes to judge the nature of a disease or to determine the proper remedy therefor, or to apply the remedy, must have certain personal qualifications; and, if he does these things without having complied with the law, he is subject to its penalties. Making contracts is not practicing medicine. Collecting the compensation therefor is not practicing medicine, within the meaning of this statute. No professional qualifications are requisite for doing these things."

It follows, said the California court, that when the California legislature declared it to be unprofessional for a licensed dentist to aid an unlicensed person to practice dentistry, it did not contemplate aid to a corporation, which itself could not become licensed under the Act and which could do no more than conduct the business side of the office. Since a corporation cannot practice dentistry, Parker could not have aided it to practice and could not have been guilty of unprofessional conduct in this respect as charged by the board.

The Board of Dental Examiners charged further that Parker had been guilty of unprofessional conduct in that he aided an unlicensed person, Ramona McShane, to practice dentistry unlawfully by permitting her to participate in the profits of the dental offices operated by "Painless Parker Dentist, a corporation." The board, to support this charge, introduced evidence that some years ago the Associate Dental Supply Company executed a trust agreement and sold trust certificates in small denominations. Ramona McShane purchased a number of these certificates, and dividends were later paid to certificate holders. As the Painless Parker Dentist corporation leased offices from the Associated Dental Supply Company, the board, after its hearing in the case, held that Ramona McShane participated in the profits of the Painless Parker Dentist corporation; that she therefore practiced dentistry unlawfully, and that Painless Parker aided and abetted her in so doing. But, said the District Court of Appeal, it would be just as reasonable to hold that every stockholder of a bank which has lent money to the owner of a building in which some dentist has practiced without a license is an aider and abetter in the unlawful practice of dentistry. To interpret the statute as contended for by the board would make it unconstitutional for the reasons stated above. If, however, the statute is given a reasonable and constitutional interpretation, the evidence demonstrates that Ramona McShane was not practicing dentistry within any sound construction of the Act.

The board held also, after its hearing, that Painless Parker had been guilty of unprofessional conduct in that he practiced under an assumed or fictitious name in the use of the term "Painless Parker Dentist." But, said the court, the name Painless Parker Dentist was not fictitious. Parker was practicing under the name given him by decree of court, which also was the name under which he was licensed to practice by the board.

For the reasons stated above, the order of the California Board of Dental Examiners suspending Parker's license to practice dentistry was reversed.

* * *

Physicians' Witness Fees

The Washington Supreme Court holds, by a divided court, 5 to 4, that a plaintiff in a personal injury action who voluntarily submits to an examination by a doctor at the instance of the defendant may call the doctor as a witness and interrogate him, not only as to the facts which he discovered upon the examination, but also as to his opinion concerning the nature and extent of the injury, without compensation other than the ordinary witness fees. The rule according to the decisive weight of authority, the court says, is that an expert witness is not entitled to demand additional compensation other than the ordinary witness fees, unless special services other than attendance to give testimony on the trial are required in order to enable the witness to testify.

In this case the doctor having testified to the facts which he discovered on the examination of the plaintiff in a deposition, refused to give his opinion as to the nature and extent of the injuries. The court ordered him to give such opinion or be adjudged in contempt of court. The doctor sought to be relieved from the order. The writ was denied. The court said: "We see no reason why the same rule should not apply as to the doctor's opinion as is applied to the facts which were discovered by his examination. The opinion would be based upon the facts disclosed by the examination to which the adverse party to the one employing the doctor voluntarily submitted. This is not a case where the adverse party seeks to call a witness employed by the other party and interrogate him as to matters which require special preparation without the party calling him having in any manner coöperated." . . . The court pointed out that the doctor did not demand witness fees, and that failure to pay or tender them was not the reason given for his refusal to testify. The court therefore did not pursue that question further.

Dissenting opinion by French, J., said in part: "I do not think a physician or other professional man can be called as an expert witness and required to answer purely hypothetical questions involving his opinion only without some arrangements being made as to his special fees." . . . Holcomb, J., specially concurring with the majority opinion, said that if the expert has been unable to reach a conclusion from his examination, he has the privilege of so stating, under his oath, without being deemed in contempt." State ex rel. Berge v. Superior Court, 281 Pac. 355.—*Medical Journal and Record.*

* * *

The Law of Libel

The editing of a journal calls for a certain precautionary attitude which few recognize apart from the editor himself. We have had occasion to delete expressions and statements in contributed papers which, even though true, if published, would be liable to cause trouble. It is an expensive and uncertain matter to be called into court even to prove that one is right. In the matter of libel, discretion is the better part of valor. Bresnan, the counsel for the Medical Society for the State of New York, writing in the *New York State Journal of Medicine,* quotes the libel law, which defines libel as, "A malicious publication, by writing, printing, picture, effigy, sign or otherwise than by mere speech, which exposes any living person, or the memory of any person deceased, to hatred, contempt, ridicule or obloquy, or which causes, or tends to cause, any person to be shunned or avoided, or which has a tendency to injure any person, corporation or association of persons, in his or their business or occupation is a libel."

This has been carried so far as to be construed to apply to biographies even of persons long dead, if their descendants felt it worth while to prosecute.

Another matter on which editors must be on their guard is that of violating copyright. If the writer of a paper, for instance, finds it advantageous to make a lengthy quotation, he will do well to write the publisher or author of the article for permission. This is usually granted. However, to quote at length without this permission is violating the law of copyright and one becomes amenable to the penalties of the law should the owner feel it expedient to prosecute. Copyright privileges cover twenty-eight years, so that in quoting from works published beyond this time, mere mention of the source of the material is sufficient. Recent books, however, are very particular in the matter and stipulate that no part of the book may be quoted without the permission of the publisher. With this permission given it is customary to acknowledge it by a brief line to that effect.—*Journal of the Michigan Medical Society,* September, 1932.

STERILIZATION *

Sterilization in the Light of Criminal Law.—The question is being raised more and more frequently as to whether, with reference to birth regulation and the securing of a healthy posterity, in certain cases compulsory sterilization should be applied, or as to whether sterilization by a physician at the request and with the consent of the person to be sterilized is, or should be, permissible under the law. . . .

Supporters of compulsory sterilization call attention to the examples of various North American states in which, for a number of years, sterilization has been permitted, and emphasize that it is certainly to the interest of public welfare and public health that certain persons who are subnormal mentally or physically be prevented by sterilization from having offspring that are most likely to be a burden to society. In support of this, figures are cited. In 1893 there were 834 living descendants of an alcohol addict, a woman born in 1810, of which number 181 were prostitutes, 142 were beggars, 76 were major criminals, and 7 were murderers. Prussia was obliged to spend for this family, by way of prison costs, social aid and the like, the sum of $1,200,000. . . .

In spite of the arguments cited, Ebermayer does not favor the introduction of compulsory sterilization. It constitutes a drastic negation of the right of self-determination, which the legislator should not consent to, since the effects of sterilization on the character development of the person sterilized, and on the sexual impulse, are by no means fully understood. Furthermore, the "laws" of hereditary transmission are not so fully developed as yet that one can establish with certainty, in every case, whether or not an inferior progeny affected with moral and criminal taints is to be expected. This is also the predominant standpoint of medical science, as Ebermayer has shown in "Der Arzt im Recht."

It is quite another question as to whether or not a physician should be granted the right to perform sterilization in all cases in which the person to be sterilized requests it—or at least if certain preconditions are met. At present such a permission is granted only when there are suitable therapeutic indications for sterilization, which is seldom the case. Under such circumstances the physician, if he sterilizes with the consent of the patient, is not amenable to punishment; but if he acts without, or contrary to, the desire of the patient, he is guilty of a bodily injury punishable by law.

A sterilization for any other than therapeutic reasons—for example, for social or eugenic reasons—a physician may not, according to existing laws, undertake, even though the party immediately affected expressly demands such intervention. In medical circles, however, contrary opinions are frequently advanced, and sometimes also in legal circles; it is admitted that the physician is punishable if he acts without, or against, the desire of the other party, but it is held that he is not punishable if the other party demands sterilization, or at least consents to it. This opinion is wrong. Sterilization for other than therapeutic purposes is, according to existing German law, an objectively illegal severe bodily injury. The question may be raised as to whether the law should be changed. As to sterilization for eugenic reasons, doubt may be expressed as to whether the "laws" of hereditary transmission are sufficiently developed and understood to enable an examining board to decide with certainty, in a given case, whether or not a sterilization is indicated. On the other hand, an opportunity should be afforded a physician to perform sterilization with impunity if certain preconditions of a social nature obtain and the person to be sterilized makes such a request. For example, it does not appear reasonable to deny a physician the right to sterilize at her request a woman without adequate income who already has seven children that she cannot properly care for; yet, as the law now reads, he is subject to punishment if he complies with her request. The draft of a new general penal code has introduced here a good compromise: it provides that the person committing a bodily injury with the consent of the injured subject is amenable to punishment only in case the act contravenes good morals. If this provision is approved, sterilization with the consent of the person to be sterilized may be performed with impunity in all cases in which it appears reasonable and proper, as, for example, in the case just cited.—*Berlin News Letter* in *Journal of the American Medical Association,* Vol. 99, No. 5.

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* See also editorial comments in this issue of California and Western Medicine, page 261.

TWENTY-FIVE YEARS AGO*

EXCERPTS FROM OUR STATE MEDICAL JOURNAL

Volume V, No. 10, October, 1907

From some editorial notes:

Short Papers.—It is mighty seldom that a man has anything to present to a gathering of medical men which cannot be said in ten, or at most, fifteen minutes. Long, tiresome papers are a burden to the flesh of the listener and are of small profit to him. This is said with the next meeting of the state society in mind and at the suggestion of some members of the Committee on Scientific Work. The reading of endless reports of cases has no place in the program of a learned society. The meat of the paper should be gathered into an abstract which will present the facts, and the tedious details, only useful for reference, comparison or subsequent study, should be published but not read. So, too, with the paper which deals with an elaborate history of some complication, compiled from the already enormous literature on the subject or based upon long quotations from other papers previously read. Such things are entirely out of place at the time of a meeting, though they are occasionally useful for reference. It is to be hoped that the papers at the next meeting of the society will be short, sharp, sweet and to the point, and that the discussions will in the main follow the papers in these highly-to-be-desired characteristics. . . .

General Sanitation.—The discussion by the San Francisco County Medical Society, at a recent meeting, of the plague situation in that city points out most markedly the general lack of interest in or attention to the simplest sanitary measures, not alone on the part of the general public, but also by our profession. . . . True, we have now a Pure Food Commission of the State Society, and we understand that it is doing splendid work. but that is only a part of the work that should be done everywhere. Each and every county medical society should be the real sanitary commission for that county, if not indeed the actual County Board of Health; and it should command the respect and support of the citizens of the county. . . .

Direct Illustration.—The plague in San Francisco is another illustration. The city and the national governments are spending many thousands of dollars each month in an effort to counteract the negligence of past years. A modest sum intelligently expended by an honest and nonpolitical Board of Health continuously would keep the city clean and render it almost immune to infection. Fortunately for the whole state, and indeed for the country, the Marine Hospital Service and an honest and intelligent Board of Health are now working together and have a firm grasp of the situation; there is no danger of a plague epidemic. though there will undoubtedly be cases reported for a number of months to come. That is all right so far as San Francisco is concerned, but what of other sections in the state? . . .

How to Do It.— . . .Therefore, it is vitally necessary, if we are to fulfill our obligations to the public, that we manifest our existence by getting interested in politics so far as educating the voters on these matters may be concerned. . . . Experience has shown that legislators are most anxious to learn and most ready to listen to advice before they are nominated or elected. It is, perhaps, not so singular that this should be so; but it is so, nevertheless. Therefore, before the aspirant is nominated, or before he is elected, it is well to talk with him about these matters of public health and show him what they mean to his community. . . . You know now at least some one or more men who will probably aspire to nomination for the next legislature. . . .

From an article on "Surgical Treatment of Gastroptosis" by J. Henry Barbat, M. D., San Francisco.

The first recorded operative procedure for the cure of gastroptosis was by Duret of Lille in 1894. The operation consisted in sewing the stomach to the anterior abdominal wall, and was done for an extreme case of gastroptosis. . . .

CALIFORNIA STATE DEPARTMENT OF PUBLIC HEALTH

By GILES S. PORTER, M. D.
Director

City and County Health Officers of California, by Counties—

ALAMEDA COUNTY	Dr. John A. Azevedo, Hayward
Alameda	Dr. R. W. Sanders
Albany	Dr. Martin J. Lacey
Berkeley	Dr. Frank L. Kelly
Emeryville	Dr. George Rothganger
Hayward	Nelson E. Clemens, D. V. M.
Livermore	Dr. Paul E. Dolan
Oakland	Dr. Arthur Hieronymus
Piedmont	Dr. Harry J. Smith
Pleasanton	Dr. J. Hal Cope
San Leandro	Dr. Luther Michael
ALPINE COUNTY	Dr. F. H. Harrison, Minden, Nevada
AMADOR COUNTY	Dr. G. L. Lynch, Amador City
Amador City	Mr. Ben White
Jackson	Mr. Earl J. Garberini
Plymouth	Mr. Pete Laverone
Sutter Creek	Mr. Grant Shealor
BUTTE COUNTY	Dr. B. Caldwell, Biggs
Biggs	Mr. Leon Brink
Chico	Mr. Charles E. Tovee
Gridley	Dr. W. S. Lavy
Oroville	Mr. A. A. Davis
CALAVERAS COUNTY	Dr. George P. Cooper, Angels Camp
Angels Camp	Dr. E. W. Weirich
COLUSA COUNTY	Dr. G. W. Desrosier, Colusa
Colusa	Dr. George W. Desrosier
Williams	Dr. Charles F. Keith
CONTRA COSTA COUNTY	Dr. I. O. Church, Martinez
Antioch	Dr. J. B. Blackshaw
Concord	Under County Supervision
El Cerrito	Dr. F. L. Horne
Hercules	Under County Supervision

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* This column strives to mirror the work and aims of colleagues who bore the brunt of state society work some twenty-five years ago. It is hoped that such presentation will be of interest to both old and recent members.

Martinez	Under County Supervision
Pinole	Under County Supervision
Pittsburg	Dr. H. E. Peters
Richmond	Dr. Charles R. Blake
Walnut Creek	Under County Supervision
DEL NORTE COUNTY	Dr. W. Stageman, Crescent City
Crescent City	Dr. F. Stump
EL DORADO COUNTY	Dr. A. A. McKinnon, Placerville
Placerville	Mr. Glen D. Stevens
FRESNO COUNTY	Dr. James E. Pendergrass, Clovis
Clovis	Dr. M. S. McMurtry
Coalinga	Mr. W. T. Hayes
Firebaugh	Mr. Frank Borrecco
Fowler	Mr. Retel L. H. Fernside
Fresno	Dr. C. Mathewson
Kingsburg	Dr. Ewald A. Larson
Parlier	Dr. James E. Pendergrass
Reedley	Dr. R. E. Allen
Sanger	Dr. Benjamin H. Viau
Selma	Dr. R. W. Binkley
GLENN COUNTY	Dr. F. M. Lawson, Willows
Orland	Dr. T. H. Brown
Willows	Dr. Etta S. Lund
HUMBOLDT COUNTY	Dr. Allen R. Watson, Eureka
Arcata	Dr. B. Cooper
Blue Lake	Dr. George P. Purlenky, Arcata
Eureka	Dr. W. J. Quinn
Ferndale	Dr. O. B. Barron
Fortuna	Dr. H. W. Comfort
IMPERIAL COUNTY	Dr. Warren Fox, El Centro
Brawley	Dr. J. L. Parker
Calexico	Dr. W. T. Talbott
Calipatria	Dr. J. H. Hutton
El Centro	Under County Supervision
Holtville	Dr. John D. Keye
Imperial	Dr. H. V. Gray
Westmoreland	Under County Supervision
INYO COUNTY	Dr. Harvey W. Crook, Bishop
Bishop	Mr. C. A. Collins
KERN COUNTY	Dr. Joe Smith, Bakersfield
Bakersfield	Dr. P. J. Cuneo
Delano	Under County Supervision
Maricopa	Dr. K. D. Cook
Taft	Dr. Oran Newton
Tehachapi	Dr. R. G. Doupe
KINGS COUNTY	Dr. C. G. Newbecker, Hanford
Corcoran	Dr. J. H. Van Vorhis
Hanford	Dr. J. A. Crawshaw
Lemoore	Dr. W. P. Byron
LAKE COUNTY	Dr. W. E. Upton, Kelseyville
Lakeport	Mr. L. C. McCloud
LASSEN COUNTY	Dr. C. I. Burnett, Susanville
Susanville	Dr. George Scott Martin
LOS ANGELES COUNTY	Dr. J. L. Pomeroy, Los Angeles
Alhambra	Under County Supervision
Arcadia	Under County Supervision
Avalon	Under County Supervision
Azusa	Under County Supervision
Bell	Under County Supervision
Beverly Hills	Dr. Charles F. Nelson
Burbank	Dr. T. H. Ransom
Claremont	Under County Supervision
Compton City	Under County Supervision
Covina	Under County Supervision
Culver City	Under County Supervision
El Monte	Under County Supervision
El Segundo	Under County Supervision
Glendale	Under County Supervision
Glendora	Under County Supervision
Hawthorne	Under County Supervision
Hermosa Beach	Under County Supervision
Huntington Park	Under County Supervision
Inglewood	Under County Supervision
La Verne	Under County Supervision
Long Beach	Dr. G. E. McDonald
Los Angeles	Dr. C. W. Decker
Lynwood City	Under County Supervision
Manhattan Beach	Under County Supervision
Maywood	Under County Supervision
Monrovia	Under County Supervision
Montebello	Under County Supervision
Monterey Park	Under County Supervision
Pasadena	Dr. J. D. Dunshee
Pomona	Under County Supervision
Redondo Beach	Under County Supervision
San Fernando	Under County Supervision
San Gabriel	Under County Supervision
San Marino	Dr. Lemoyne Wills
Santa Monica	Under County Supervision
Sierra Madre	Under County Supervision
Signal Hill	Dr. R. J. Striegel
South Gate	Under County Supervision
South Pasadena	Dr. E. J. Johnston
Torrance	Under County Supervision
Tujunga	Under County Supervision
Vernon	Dr. H. F. Becker
West Covina	Under County Supervision
Whittier	Under County Supervision
MADERA COUNTY	Dr. Lee A. Stone, Madera
Chowchilla	Dr. Howard G. Martin
Madera	Under County Supervision
MARIN COUNTY	Dr. J. H. Kuser, San Rafael
Belvedere	Dr. C. W. Clark, San Rafael
Corte Madera	Dr. L. L. Robinson, San Rafael
Fairfax	Dr. L. L. Robinson, San Rafael
Larkspur	Dr. L. L. Robinson, San Rafael
Mill Valley	Mr. Will Falley
Ross	Dr. George H. Willcutt
San Anselmo	Dr. M. S. Edgar
San Rafael	Dr. H. M. Beck
Sausalito	Dr. C. F. Larson
MARIPOSA COUNTY	Dr. John S. Webster, Mariposa
Yosemite	Dr. Hartley G. Dewey
MENDOCINO COUNTY	Dr. H. O. Cleland, Ukiah
Fort Bragg	Dr. Royal Scudder
Point Arena	Mr. M. S. Scott
Potter Valley	Under County Supervision
Ukiah	Dr. J. H. Hansen
Willits	Dr. Raymond Babcock
MERCED COUNTY	Dr. James A. Parker, Atwater
Gustine	Dr. A. W. Gustafson
Livingston	Mr. F. M. Eeelefield
Los Banos	Dr. L. R. Hillyer
Merced	Dr. A. S. Parker
MODOC COUNTY	Dr. John Stile, Alturas
Adin	Under County Supervision
Alturas	Dr. W. E. Coppedge
MONO COUNTY	Dr. Gilbert A. Kelley, Bridgeport
MONTEREY COUNTY	Dr. Roy Macleay. Fortier, Salinas
Carmel	Under County Supervision
King City	Under County Supervision
Monterey	Under County Supervision
Pacific Grove	Under County Supervision
Salinas	Miss Marie Fidel
Soledad	Under County Supervision
NAPA COUNTY	Dr. Robert S. Northrop, Napa
Calistoga	Mr. George C. Locey
Napa	Mr. C. C. Hackett
St. Helena	Mr. C. C. Johnson
NEVADA COUNTY	Dr. Carl P. Jones, Grass Valley
Grass Valley	Dr. Carl P. Jones
Nevada City	Mr. George H. Calanan
ORANGE COUNTY	Dr. K. H. Sutherland, Santa Ana
Anaheim	Under County Supervision
Brea	Under County Supervision
Fullerton	Under County Supervision
Garden Grove	Under County Supervision
Huntington Beach	Under County Supervision
Laguna Beach	Under County Supervision
La Habra	Under County Supervision
Newport Beach	Under County Supervision
Orange	Under County Supervision
Placentia	Under County Supervision
San Clemente	Under County Supervision
Santa Ana	Under County Supervision
Seal Beach	Under County Supervision
Tustin	Under County Supervision
PLACER COUNTY	Dr. D. M. Kindopp, Colfax
Auburn	Dr. Theodore Snypp
Colfax	Dr. D. M. Kindopp
Lincoln	Mr. F. R. Elder
Rocklin	Under County Supervision
Roseville	Dr. R. H. Eveleth
PLUMAS COUNTY	Dr. B. J. Lasswell, Quincy
RIVERSIDE COUNTY	Dr. W. B. Wells, Riverside
Banning	Mr. R. H. Samuel
Beaumont	Mr. W. J. Atkinson
Blythe	Dr. W. H. Chapman
Corona	Dr. W. S. Davis
Elsinore	Dr. S. J. Brimhall
Hemet	Mr. A. J. Berg
Indio	Dr. R. M. Gray
Perris	Dr. H. J. Wickman
Riverside	Dr. W. B. Wells
San Jacinto	Dr. W. L. Chilcott
SACRAMENTO COUNTY	Dr. Hugh Beattie, Elk Grove
Isleton	Dr. J. H. Leimbach
North Sacramento	Dr. W. E. Weddle
Sacramento	Dr. Herbert F. True
SAN BENITO COUNTY	Dr. L. C. Hull, Hollister
Hollister	Mr. Fred A. Earle
San Juan Bautista	Mr. E. Zanetta
SAN BERNARDINO COUNTY	Dr. Edwin B. Godfrey, San Bernardino
Barstow	Under County Supervision
Chino	Dr. W. C. Miller
Colton	Dr. J. A. Champion
Needles	Dr. W. G. Morton
Ontario	Dr. C. L. Emmons
Redlands	Dr. Harold G. Gentry
Rialto	Dr. L. P. Barbour
San Bernardino	Dr. W. W. Fenton
Upland	Dr. John B. Craig
SAN DIEGO COUNTY	Dr. A. M. Lesem, San Diego
Chula Vista	Dr. F. E. Ashcroft
Coronado	Dr. Ernest B. Porter
East San Diego	Under County Supervision
El Cajon	Mr. Charles F. Richardson
Escondido	Dr. C. A. S. Kemper
La Mesa	Under County Supervision
National City	Under County Supervision
Oceanside	Under County Supervision
San Diego	Dr. Alex M. Lesem
SAN FRANCISCO COUNTY	Dr. J. C. Geiger, San Francisco..
SAN JOAQUIN COUNTY	Dr. J. J. Sippy, Stockton
Lodi	Under County Supervision
Manteca	Under County Supervision
Stockton	Under County Supervision
Tracy	Under County Supervision
SAN LUIS OBISPO COUNTY	Dr. Allen F. Gillihan, San Luis Obispo
Arroyo Grande	Under County Supervision
Paso Robles	Under County Supervision
San Luis Obispo	Under County Supervision

SAN MATEO COUNTY	Dr. F. Holmes Smith, San Bruno
Atherton	Mr. J. E. Farrell (Acting)
Belmont	Mr. S. M. St. John
Burlingame	Dr. Matthew F. Desmond
Colma	Under County Supervision
Daly City	Dr. Ferdinand Callsen
Hillsborough	Mr. C. M. Hirschey
Menlo Park	Mr. Edward H. Hart
Redwood City	Mr. Con Drathman
San Bruno	Dr. F. Holmes Smith
San Carlos	Mr. O. W. Stewart
San Mateo	Dr. W. C. McLean
South San Francisco	Dr. J. O. McMills
SANTA BARBARA COUNTY	Dr. R. C. Main, Santa Barbara
Lompoc	Under County Supervision
Santa Barbara	Dr. W. H. Eaton
Santa Maria	Under County Supervision
SANTA CLARA COUNTY	Dr. C. M. Burchfield, San Jose
Alviso	Dr. J. I. Beattie
Gilroy	Under County Supervision
Los Gatos	Under County Supervision
Mayfield	Under City of Palo Alto
Morgan Hill	Dr. R. L. Newbold
Mountain View	Under County Supervision
Palo Alto	Mr. Louis Olsen
San Jose	Dr. H. C. Brown
Santa Clara	Under County Supervision
Sunnyvale	Under County Supervision
Willow Glen	Under County Supervision
SANTA CRUZ COUNTY	Dr. Samuel B. Randall, Santa Cruz
Santa Cruz	Dr. J. T. Harrington
Watsonville	Dr. George P. Tolman
SHASTA COUNTY	Dr. B. F. Saylor, Redding
Redding	Mr. Leslie Engram
SIERRA COUNTY	Dr. Carl C. Sutton, Downieville
Downieville	Under County Supervision
Loyalton	Mr. George L. Snyder
SISKIYOU COUNTY	Dr. Charles Pius, Yreka
Dorris	Dr. Paul P. Baron
Dunsmuir	Mr. T. B. Wright
Etna	Dr. E. W. Bathurst
Fort Jones	Mr. John Schary
Montague	Mr. Frank French
Mt. Shasta	Dr. Paul Wright
Yreka	Dr. Charles Pius
SOLANO COUNTY	Dr. W. C. Jenney, Vacaville
Benicia	Dr. P. B. Fry
Dixon	Mr. H. C. Grove
Fairfield	Dr. H. V. Clymer
Rio Vista	Mr. W. E. Godsell
Suisun	Dr. A. P. Finan
Vacaville	Mr. O. E. Alley
Vallejo	Dr. E. A. Peterson
SONOMA COUNTY	Dr. P. A. Meneray, Santa Rosa
Cloverdale	Dr. Ira A. Wheeler
Healdsburg	Dr. J. Walter Seawell
Petaluma	Dr. Henry S. Rogers
Santa Rosa	Mr. E. J. Helgren
Sebastopol	Dr. Chester Marsh
Sonoma	Mr. John F. Tate
STANISLAUS COUNTY	Dr. E. F. Reamer, Modesto
Ceres	Under County Supervision
Modesto	Under County Supervision
Newman	Dr. H. V. Armistead
Oakdale	Under County Supervision
Patterson	Mr. C. Lindgren
Riverbank	Under County Supervision
Turlock	Dr. C. E. Pearson
SUTTER COUNTY	Dr. T. P. Peery, Yuba City
Yuba City	Dr. J. H. Barr
TEHAMA COUNTY	Dr. E. E. Thompson, Red Bluff
Corning	Dr. Caroline Howes
Los Molinos	Dr. J. H. Belyea
Red Bluff	Dr. F. J. Bailey
TRINITY COUNTY	Dr. David B. Fields, Weaverville
TULARE COUNTY	Dr. A. W. Preston, Visalia
Dinuba	Dr. Edgar R. Brigham
Exeter	Dr. Donald C. Fowler
Lindsay	Dr. Annie L. Bond
Porterville	Dr. Philip S. Barber
Tulare	Dr. E. R. Zumwalt
Visalia	Dr. A. W. Preston
TUOLUMNE COUNTY	Dr. William L. Hood, Sonora
Sonora	Dr. William L. Hood
VENTURA COUNTY	Dr. A. A. Maulhardt, Oxnard
Fillmore	Under County Supervision
Ojai	Under County Supervision
Oxnard	Under County Supervision
Santa Paula	Under County Supervision
Ventura	Dr. J. A. DeSerpa
YOLO COUNTY	Dr. Fred R. Fairchild, Woodland
Davis	Under County Supervision
Winters	Under County Supervision
Woodland	Under County Supervision
YUBA COUNTY	Dr. J. H. Barr, Marysville
Marysville	Dr. R. Hanagan
Wheatland	Mr. H. Reithardt

On the Value of Self-Restraint in the Interpretation of Published Maternal Mortality Statistics.—The prevention of maternal deaths and the saving of infant lives are public health activities which have a deep appeal in spite of the fact that we are sometimes judged as being a callous, material nation. This deeply rooted interest in the betterment of conditions relative to child-bearing has created a desire to determine how many deaths are occurring in proportion to the risk involved and how these deaths may be prevented. If certain cities are showing a reduction in maternal mortality over a period of years, what is causing the reduction? Is it because of well-organized health service? Are many pregnancies hospitalized? Are there few or many midwives practicing? The answers to these questions are popularly assumed to lie in the association of maternal mortality with the presence or absence of the above factors. Just what do we mean by maternal mortality? Many conclusions which are propounded are more apparent than real. It is with this in mind that the following difficulties of interpretation are presented.

Maternal mortality may be analyzed in a number of ways; *i. e.,* the number of maternal deaths may be expressed in proportion to the total population, in proportion to the total number of women of child-bearing age, or married women of child-bearing age; in proportion to the number of live births registered, or the number of live and stillbirths together. . . . The *real* maternal mortality rate would be obtained if it were possible to divide the number of maternal deaths by the *total* number of births, since every separation of an embryo, alive or dead, from the mother implies a chance of death. In practice, however, this is impossible. The best approximation is the maternal risk rate, which is obtained by dividing the maternal deaths by the total still and live births as defined by the laws of the particular State whose rate is being computed. The regulations which have to do with the registration of stillbirths in various states of the United States vary enormously.

A fetus is considered stillborn and registrable in 18 states after 4 months; in 2 states after 4½ months; 3 states after 5 months; 3 states after 6 months; 2 states after 28 weeks; 3 states after 7 months; 2 states have no definite rule; 1 state, any product of gestation that can be recognized must be registered.

Since stillbirths are not uniformly defined and are poorly registered, it is customary to calculate the rate using live births only as a divisor. It is at once apparent that this overweights the maternal mortality rate since there are many deaths for which there are no corresponding live births. . . .

Up to this point, we have assumed that the term "maternal death" has been accurately defined. What is meant by "maternal death"? Are deaths which occur before the fourth, fifth, sixth or seventh month of gestation considered as related to the puerperal state? What about a death occurring after one month postpartum? Are those deaths included which are complicated by some other infection such as smallpox, diphtheria, or tuberculosis, or cancer? The latter causes are usually given preference over those of the puerperal state according to the International List of Joint Causes of Death. This list is used by the Bureau of the Census in the determination of primary causes which are tabulated in the published mortality statistics. In a study made by Dr. Susan McCoffin and her associates of the maternal mortality in Massachusetts, it was found that out of 984 deaths judged by the investigators from information obtained from the attending physician and the hospital as being from puerperal causes, 10 per cent deviated from the primary cause given in the death certificate.

It becomes apparent that a definite statement of just what constitutes a maternal death is difficult to make. Many causes as stated on certificates are judgments made by the physician at the time of the death of the patient, sometimes influenced by regulation, and almost always by common local practice. . . .

In conclusion, before the effectiveness of any preventive measure, or service at the time of delivery can be evaluated, much less measured, in terms of the reduction of total maternal mortality, general agreement must be reached in regard to the definition of terms. At the present time this necessity is neither fully recognized nor comprehended.—From an address by Eschscholtzia L. Lucia, Ph. D., University of California.

BOARD OF MEDICAL EXAMINERS OF THE STATE OF CALIFORNIA

By Charles B. Pinkham, M. D.
Secretary

Results of Board of Medical Examiners' Examination, San Francisco, July 12 to 14, 1932.†—The Board of Medical Examiners of the State of California reports results of the written examination held in San Francisco, July 12 to 14, 1932. The examination covered nine subjects, and included ninety questions for physician and surgeon applicants. An average of 75 per cent is required to pass. An allowance of one per cent added to the general average is allowed by the medical practice act for each year of medical practice under a license granted elsewhere than in California, provided the applicant has not fallen below 60 per cent in more than one subject.

A total of 124 applicants wrote the examination.

One hundred and fifteen (92.8 per cent) of the graduates of medical schools passed the examination and nine (7.2 per cent) failed, of whom three were graduates of foreign medical schools.

The following colleges were represented:

PASSED

College	Year of Graduation	Per Cent
Boston University School of Medicine	1931	79
College of Medical Evangelists	1932	90 3/9, 88 2/9
83 2/9, 85 4/9, 88 5/9, 88 7/9, 85,		84 2/9, 90 6/9, 90 6/9
85 2/9		
Creighton	1932	86 7/9, 76 6/9
		79, 85 1/9
Hahnemann Medical College	1932	86 7/9
Harvard	1929	85 2/9
	1931	87 8/9
Johns Hopkins	1929	88 7/9
	1931	85 1/9
Loyola	1932	86
Northwestern	1931	81 5/9, 78 7/9
	1932	85 4/9, 87 3/9
Queens University, Ireland	1915	77 4/9
Rush	1932	86, 85 6/9
		89 2/9
Stanford	1930	86 4/9, 82 1/9
	1932	83 6/9, 81
86 3/9, 81 6/9, 85 3/9, 87, 81 1/9, 81 6/9,		85 4/9, 79
85 8/9, 82 3/9, 84 6/9, 81 4/9, 80 8/9, 82 7/9,		85 3/9, 83 8/9
78 1/9, 88 7/9, 86 4/9, 79 3/9, 79 8/9, 81 8/9,		83, 83 6/9
81, 78 8/9		
University of California	1931	75 8/9
	1932	88, 79 3/9
83 4/9, 88 3/9, 89 8/9, 83 4/9, 87 4/9, 89 1/9,		87 5/9, 82 2/9
86 7/9, 83, 87 8/9, 81 7/9, 83 2/9, 82 7/9,		86, 84
79 7/9, 84 4/9, 86 5/9, 83 7/9, 88, 80 1/9,		79, 77 5/9
80 1/9, 81 5/9, 85 7/9, 80 1/9, 85 4/9, 86,		82 7/9, 83 8/9
84 4/9, 77 8/9, 82 6/9, 80 7/9, 87 7/9, 85 3/9,		88 1/9, 83 1/9
University of Colorado	1932	78 8/9
University of Iowa	1922	77 5/9
	1929	84 5/9
	1931	78 7/9
University of Kansas	1931	81 6/9
University of Minnesota	1931	84 3/9
University of Nebraska	1931	79 3/9
University of Oregon	1931	77 5/9
University of Pennsylvania	1931	87 1/9
Washington University	1931	77 4/9, 77 4/9
	1932	82 5/9

FAILED

College	Year of Graduation	Per Cent
Carl-Frances University, Faculty of Medicine, Austria	1928	57 5/9
Creighton	1932	*75 5/9, 72 8/9
Psycho-Neurological Institute, Russia	1917	62 4/9
University of California	1932	73 4/9, 70 5/9
University of Moscow, Russia	1919	65 8/9
University of Tomsk, Russia	1913	63 4/9
Vanderbilt	1931	74 3/9

Results of the Board of Medical Examiners' Written Examination, Los Angeles, July 26 to 28, inclusive, 1932.—The Board of Medical Examiners of the State of California reports results of the written examination held in Los Angeles, July 26 to 28, inclusive, 1932.

The following colleges were represented:

PASSED

College	Year of Graduation	Per Cent
College of Medical Evangelists	1928	85 4/9
	1931	81 8/9
	1932	84, 83 1/9
84 8/9, 84 6/9, 77 2/9, 81 8/9, 86 2/9,	88 5/9,	81 3/9, 84 1/9
79 6/9, 88 3/9, 81 7/9, 91, 87 5/9,	79,	84 8/9, 87 6/9
82 5/9, 81 1/9, 85 7/9, 81 8/9, 83 6/9,	87 6/9,	86 6/9, 80 8/9
80 5/9, 88 4/9, 78 4/9, 78, 85 3/9,	84 5/9,	79 2/9, 82 8/9
86 7/9, 75, 87, 75 6/9, 88 5/9,	86	
Creighton	1931	75 3/9
	1932	75 7/9, 77 3/9
Emory University School of Medicine	1931	84 2/9
Hahneman Medical College	1931	76 7/9
Harvard	1932	84 2/9
Indiana University	1931	84 4/9
Loyola	1932	78 2/9, 83 6/9
McGill University	1931	82 5/9
Northwestern	1928	82 6/9
	1932	85 5/9
Rush	1932	83 1/9, 85 6/9
	86 5/9, 78 3/9,	87, 83 7/9
Stanford	1932	83, 81 1/9
	82 7/9,	83 8/9, 80 3/9
St. Louis University School of Medicine	1931	77 4/9
University of California	1932	83 4/9
University of Colorado	1931	83 7/9
University of Illinois	1932	80 8/9
University of Kansas	1931	76 2/9, 79 2/9
University of Michigan	1931	81 4/9, 79
		88 8/9
University of Minnesota	1932	83 2/9

FAILED

College	Year of Graduation	Per Cent
College of Medical Evangelists	1932	74, 74
College of Physicians and Surgeons, Arkansas	1910	47
Loyola	1925	73 6/9
University of Bucarest	1921	74 3/9
University of Illinois	1931	68
University of Rome	1902	42 5/9
University of Vienna	1930	74 7/9
Medical College of Virginia	1931	*75 8/9

The Board of Medical Examiners, State of California, reports the results of a written examination held in San Francisco, July 12 to 14, 1932. The following is a list of the successful applicants:

LIST OF SUCCESSFUL APPLICANTS

Harry Nils Akesson, Alameda.
Lloyd S. Bambauer, Oakland.
Walter Nicholas Becker, Sacramento.
Theodore M. Berman, Sacramento.
Harvey E. Billig, Jr., Long Beach.
Walter Birnbaum, San Francisco.
William Edgar Borley, San Francisco.
Joseph H. Boyes, San Francisco.
Judd Garwood Bridgman, San Francisco.
Malcolm Owen Burns, San Francisco.
Edward Campion, Ross.
William Sayre Cary, San Francisco.
Albert G. Clark, San Francisco.
Maurice Cohen, San Francisco.
Bernard J. Conroy, San Francisco.
Leela S. Craig, San Francisco.
Concessa L. Craviotto, San Francisco.
Albert H. Currlin, San Francisco.
Windsor C. Cutting, M. D., San Francisco.
Stanley S. Davis, Oakland.
Edgar Childes Dawson, Berkeley.
Glenn R. Dorius, Oakland.
Thomas A. Drummond, San Francisco.
Samuel Eldridge, San Francisco.
Philip C. Elliott, Oakland.
Grant Ellis, Berkeley.
Edward G. Ewer, Oakland.
Frederick D. Fellows, San Francisco.
Alvin William Folkenberg, Glendale.
Homer S. Fornoff, Sacramento.
Florence L. Fouch, Maxwell.
LeRoy Kyle Gay, San Francisco.
William Henry Gilliatt, Santa Cruz.
Sidney M. Gospe, San Francisco.
John Joseph Haruff, San Francisco.
Marcia Susan Hays, San Francisco.
Gerald A. Heidbreder, San Francisco.
George William Hemminger, San Francisco.
Ernest William Henderson, San Francisco.
Lloyd R. Hennig, San Francisco.
Bernard S. Holm, Berkeley.
Verne Thomson Inman, San Francisco.
Walter Keisuke Iriki, Alameda
Lewis G. Jacohs, San Francisco.
Edna Mildred Jacobson, Los Angeles.
Lloyd Bertram James, Glendale.
Kristian Johnsen, Sacramento.

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* Fell below 60 per cent in two subjects.

† For interesting item on some educational trends, under caption, "Doctor Embargo," see this issue of California and Western Medicine, page 264.

Arthur F. Johnson, Snoqualmie, Washington.
Walter Albert Johnson, Stockton.
Frederick Kellogg, San Francisco.
Hedwig Koenig, San Francisco.
Harrison J. Kolb, Oakland.
Lester Baker Lawrence, San Francisco.
Charles W. Leach, San Francisco.
Clarence Melvon Leggitt, French Camp.
Edward A. Levin, San Francisco.
Edward Irving Levy, San Diego.
Ralph Charles Lewis, San Francisco.
Frank Walter Lusignan, San Francisco.
Donald A. Macfarlane, Berkeley.
Kathleen M. Mahoney, San Francisco.
Donald C. Marshall, San Francisco.
John James McKay, San Francisco.
Thomas W. McMeans, San Francisco.
Camille Mermod, Oakland.
Leon Emile Mermod, San Francisco.
Arthur Henry Meuser, San Francisco.
Palmer Donald Miller, Dinuba.
James T. Milton, Merced.
Charles S. Mitchell, Berkeley.
Marvin H. Moore, Fresno.
Rowland R. Moulton, San Mateo.
Hiram M. Nelson, Jr., San Jose.
Robert W. Newman, San Francisco.
Arthur Nies, Orange.
Charles A. Noble, Jr., San Francisco.
Milton F. Novotny, San Mateo.
Albert Lamoin Olsen, Kimberly, Idaho.
Bernard S. Pearson, Sacramento.
Bruce Reed Pearson, Turlock.
Harvey Elmore Pinto, San Francisco.
Percy Perry Poliak, San Francisco.
Abraham Porter, Reno, Nevada.
Luther Glynne Price, San Francisco.
Beulah Estella Ream, San Francisco.
George Douglas Read, Albany.
Walter Earl Reed, Modesto.
August Reich, Jr., San Jose.
George Channing Richardson, San Francisco.
Findlay dePaul Rutherford, San Jose.
Nathan Avrom Sapiro, San Francisco.
David Gordon Schmidt, San Francisco.
Newton H. Shapiro, San Francisco.
Edwin Jefferson Smith, San Francisco.
Jacob Oscar Smith, San Francisco.
Edith Mary Stoker, San Francisco.
John Robert Sullivan, San Francisco.
Ralph C. Teall, Sacramento.
Morcton James Thorpe, San Francisco.
Philip Edward Thunen, Oakland.
Royal Grover Tucker, Los Angeles.
Alfred M. Tunnell, Bellflower.
Harry A. Tyerman, Bakersfield.
George Meredith Uhl, Sacramento.
Albert Vernon Van Zandt, Los Angeles.
Hildegard Lydia Paula Waasa, San Francisco.
Horace A. Wald, San Francisco.
Harold G. Watson, San Jose.
Samuel J. Weinberg, San Francisco.
George Kuhn Wever, San Francisco.
Alfred S. White, San Francisco.
Homer John Williams, San Francisco.
Harris R. Wilson, San Francisco.
John Cornell Wilson, Oakland.
Clarence Lyon Wood, San Francisco.

The results of the examination held in Los Angeles, July 26 to 28, 1932, as reported by the various examiners and tabulated in the examination record book were checked, identification envelopes opened, and names attached to corresponding examination numbers with the following results:

LIST OF SUCCESSFUL APPLICANTS

Alan Calder Adams, University of Michigan Medical School.

Benjamin Nelson Anderson, College of Medical Evangelists.

Albert Neill Anton, St. Louis University School of Medicine, Missouri.

Daniel Beltz, College of Medical Evangelists.

Emory Clement Boess, College of Medical Evangelists.

Harold Buhalts Boyd, College of Medical Evangelists.

Fred Elwood Bradford, College of Medical Evangelists.

Frederick J. Bradshaw, Jr., Northwestern University Medical School, Illinois.

Bertha Breeze Brainard, Rush Medical College, Illinois.

John Albert E. Bullis, Stanford University School of Medicine.

Joseph Edmund Cairncross, College of Medical Evangelists.

Howard Luxmoore Carpenter, Stanford University School of Medicine.

Mun Hook Chang, College of Medical Evangelists.

William Brown Chew, University of California Medical School.

Delos Comstock, College of Medical Evangelists.

John Hazlette Coughlin, Creighton University School of Medicine, Nebraska.

Willard Isaac Covault, University of Colorado Medical School.

Robert Arthur Cunningham, University of Kansas School of Medicine, Kansas.

Albin Walter Dagoberg, College of Medical Evangelists.

Clarence Everett Dixon, College of Medical Evangelists.

George Raphael Dunlevy, Northwestern University Medical School.

Samuel James Ferrara, Indiana University School of Medicine.

Joseph Paul Fitzgibbon, Rush Medical College, Illinois.

Cyril Herbrand C. Francis, Stanford University School of Medicine.

Garrison Albert Frost, Creighton University School of Medicine, Nebraska.

Herman John Fulco, Loyola University School of Medicine, Illinois.

Kathryn Lucille Hagen, College of Medical Evangelists.

Kenneth Ross Hagen, College of Medical Evangelists.

Franklin Davis Hankins, College of Medical Evangelists.

Gordon Havstad, College of Medical Evangelists.

Herbert Clyde Honor, College of Medical Evangelists.

Cecil Claude Hunnicutt, College of Medical Evangelists.

Rutherford Orvis Ingham, College of Medical Evangelists.

Harold Edward James, College of Medical Evangelists.

Dallas Bayerd Kittle, College of Medical Evangelists.

Edwin Rudolph Klauss, University of Michigan Medical School.

Karl Hermann Kortheuer, College of Medical Evangelists.

Elizabeth Larsson, College of Medical Evangelists.

Eric Lindroth, Emory University School of Medicine, Georgia.

John Beckham Marr, College of Medical Evangelists.

Charles Henry McCandliss, College of Medical Evangelists.

Alfred Merrill McCausland, (M. B.), University of Minnesota Medical School.

Scott Scowcroft McCune, Harvard University Medical School.

Ruth Lundeen Memmler, College of Medical Evangelists.

Jack Kuehn Moore, Stanford University School of Medicine.

Fred Howenstine Mowrey, Rush Medical College.

Harold Clifford Neslund, College of Medical Evangelists.

Joseph Patrick O'Connor, Creighton University School of Medicine.

Robert M. Oslund, Rush Medical College.

John Artie Pearson, Rush Medical College.

Fenn Eugene Poole, College of Medical Evangelists.

Harold Wilfred Prince, College of Medical Evangelists.

Carl Vernon Rasmussen, College of Medical Evangelists.

John Conrad Rodell, College of Medical Evangelists.

Robert Bruce Reid, College of Medical Evangelists.

Merle Franklin Schneckloth, College of Medical Evangelists.

Samuel Jacob Silverstein, University of Michigan Medical School.

Charlotte H. Singer, University of Illinois College of Medicine.

Verden Giddings Slater, Stanford University School of Medicine.

Carl Richard Smith, Ruth Medical College.

Leo Duane Smith, College of Medical Evangelists.

Merle Anthony Smith, University of Kansas School of Medicine.

William Langford Spaulding, College of Medical Evangelists.

William Harper Spicer, College of Medical Evangelists.

Clarence Eugene Stafford, College of Medical Evangelists.

Everett Mead Stone, College of Medical Evangelists.

Henry Howard Thomson, College of Medical Evangelists.

William Walla, College of Medical Evangelists.

Floyd Lawrence Wergeland, College of Medical Evangelists.

Paul Anthony Werthmann, Loyola University School of Medicine.

Glenn Albert Westphal, College of Medical Evangelists.

Ernest George Wiebusch, Hahnemann Medical College.

John Richard Wilkey, McGill University Faculty of Medicine.

Robert G. Wirth, College of Medical Evangelists.

Helen Yarnell, College of Medical Evangelists.

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PHARMACOLOGY OF BISMUTH COMPOUNDS —IN TREATMENT OF SYPHILIS[*]

A SUMMARY

By P. J. HANZLIK, M. D.
San Francisco

DISCUSSION *by Walter F. Schaller, M.D., San Francisco; Samuel Ayres, Jr., M. D., Los Angeles.*

THERAPEUTIC trials with bismuth in human syphilis had been made as early as 1889, when Balzer successfully tried bismuth ammonium citrate. In 1918, Kolle and Ritz injected colloidal bismuth intravenously in syphilitic rabbits with beneficial results, but did not pursue the subject. Systematic research with sodium and potassium bismuth tartrate in the experimental syphilis of rabbits was carried out by Sazerac and Levaditi in 1921 and 1922, and a definite antisyphilitic action was demonstrated. During the decade immediately following the work of Sazerac and Levaditi, a large crop, more than eighty-five, of bismuth products has been offered to the medical profession, which testifies, in a way, to the popularity of the metal for the treatment of syphilis. However, the large number tends to be rather confusing.

The object of this brief summary is to simplify and clarify the essential data on the use of bismuth as an antisyphilitic agent. A large number of researches and several summaries are available to anyone desiring the details; some references at the end of this paper will give the guidance to these.

PHYSICAL AND CHEMICAL PROPERTIES OF BISMUTH

The general properties of bismuth products indicate the application of some interesting physical and chemical principles in the development of a useful chemotherapeutic agent. Bismuth is situated close to arsenic and antimony in the periodic system of elements. Like arsenic and antimony, bismuth is an amphoteric element and, therefore, yields cation (electropositive bismuth) and anion (electronegative bismuth) compounds. Differing somewhat from arsenic and antimony, some anion bismuth compounds are less stable; others are equally stable. From these similarities and properties, bismuth might be expected to possess some antiparasitic actions at least; for both arsenic and antimony are effective, although antimony is only trypanocidal, not spirocheticidal, while arsenic can exert both effects.

The majority of the bismuth compounds in current use are electropositive or cationic, and fall into four general classes: (1) insoluble suspended in aqueous medium, such as the metal in dextrose solution; (2) insoluble suspended in oil, such as the bismuth salicylate in oil; (3) soluble suspended in oil, such as the potassium bismuth tartrate in oil; and (4) soluble dissolved in aqueous medium, such as the bismuth sodium tartrate in sucrose solution or water. The bismuth content of these products varies from about 20 to 80 per cent. The object of the oil as vehicle is to lessen the local irritation and retard absorption of the soluble bismuth products; hypertonic aqueous or purely chemical vehicles, such as dextrose, sucrose, or glycol, increase the local tolerance of soluble products but do not affect absorption; glycol solutions require no sterilization.

The products containing electronegative or anionic bismuth, tried more recently, are represented by two general types: (1) soluble haloid bismuthites with about 21 per cent of bismuth, such as sodium iodobismuthite in ethylene glycol; and (2) sodium bismuthate with about 73 per cent of bismuth, practically insoluble in all solvents.

Some cationic compounds (tartrate and thioglycollate) show the presence of small amounts of electronegative bismuth, in serum, others do not. Bismuth forms complex products with proteins, but the exact nature of these is not understood; nor is it known what form the cationic and anionic types assume in the tissues. Electronegative bismuth possesses the theoretical and practical advantages of dependable cerebral penetration and possibly better local and general tissue penetration and better absorption and lower toxicity than cationic products.

A complex ion, similar to iodobismuthite (BiI_5), exists in potassium iodomercuriate (K_2HgI_4) where, it is reported, the anion (HgI_4) acts as iodin toward alkaloids. For living cells the toxicity of this complex iodin-mercury anion is 1/100 that of mercuric iodid, in which the mercury is cationic. In such complex ions the iodin acts as carrier of the heavy metal, and the latter loses its characteristic properties until it is set free, as is probably the case in living tissues.

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[*] From the Department of Pharmacology, Stanford University School of Medicine, San Francisco.

[*] Read before the General Medicine Section of the California Medical Association at the sixty-first annual session, Pasadena, May 2-5, 1932.

All bismuth compounds are hydrolyzed, *i. e.,* changed to oxy-compounds, such as the subcarbonate, although the speed and completeness of hydrolysis vary with many factors.

PHARMACOLOGIC ACTIONS

In order that they may be used safely, all compounds of bismuth should be injected intramuscularly. Intravenously, the bismuth solution and the blood generally sustain undesirable changes and cause sudden reflex and acute disturbances which are unnecessary and may be dangerous. The intravenous toxic dose is from about two and one-half times (iodobismuthite in rats) to nine times (rabbits) greater than the intramuscular. Some local injury and irritation in the muscles are caused by all bismuth products, the degree and duration of these changes varying with the character of the product and its amount, and of the solvent or medium.

All bismuth products are tissue-soluble, though in varying degrees. Immediately after injection, least irritating are the insoluble products in aqueous medium or in oil; and more irritating, the soluble in oil or in aqueous medium. All insoluble products, whether in aqueous or in oily medium, are objectionable because they introduce large amounts of unassimilable foreign matter.

In general, bismuth products cause less marked local reactions and smaller deposits than similar products of mercury.

Intramuscular absorption of the insoluble bismuth products in oily suspension or aqueous medium is slow, gradual, irregular, and incomplete. The tissue depots remain for months and cause delayed irritation. and may cause abscess formation, large encapsulations and tumor-like masses which may require surgical evacuation. The water-soluble products are more rapidly absorbed, distributed, and more evenly and completely excreted, but even these products, for instance sodium bismuth tartrate, leave at the end of two weeks about 50 per cent of the injected bismuth in the body, to be excreted in traces for weeks or months. Those solutions with alkaline reaction are apt to cause delayed irritation and abscess formation, especially with continued medication. The iodobismuthite in ethylene glycol is promptly and readily absorbed but somewhat more slowly excreted than the water-soluble bismuth products. This solution causes a temporary local burning, but delayed irritation and abscess formation have not been encountered in hundreds of animals and patients. The bismuthate is extremely insoluble and not yet clinically useful.

After absorption from the site of injection, bismuth is distributed slowly throughout the body. Saturation of the body with bismuth is more rapid, uniform and satisfactory with the soluble than with the insoluble products. The cationic and insoluble products do not dependably penetrate the central nervous system.

Dermal absorption of bismuth in any form is not demonstrable: a difference from mercury. Therefore, bismuth ointments, pastes, and the like, for dermal use in syphilis are irrational and valueless. Absorption from the alimentary tract is questionable.

The main channel for excretion of bismuth is the kidney, only one-twelfth to one-eighth of the bismuth appearing in the feces. A sustained excretion indicates a sustained systemic action of the bismuth, but it is undesirable and unnecessary to use relatively unabsorbable and unassimilable insoluble products and oily suspensions to achieve this action. Studies of excretion indicate the desirability of avoiding intensive medication and a total dosage equivalent of 1.5 to 2.4 grams of bismuth. All bismuth products tend to increase urine output and thus promote their own excretion. The administration of water and of sodium salts, such as chlorid, iodid, thiosulphate and sulfocyanate, and the pyrexia of hot baths and of antityphoid vaccine hasten the excretion of bismuth as the result of increased diuresis and of mobilization of tissue bismuth. A high chlorid dietary would favor the efficiency of bismuth medication and of removal of bismuth in treatment of poisoning. However, judgment should be used in adopting such adjuvant measures so as not to increase the bismuth action beyond tolerance, or to aggravate poisoning.

The diuretic action of bismuth is in itself useful in the treatment of clinical edemas and anasarca. This action is well sustained and can remove large quantities of edema fluid. For the purpose, from one to four doses (0.03 to 0.12 gram.) of bismuth sodium tartrate injected intramuscularly has been found effective. The bismuth may be alternated with such diuretics as merbaphen, salyrgan or theophyllin to good advantage in patients responding poorly to the other agents.

TOXICITY AND SIDE ACTIONS

The toxicity of bismuth is comparatively low; undesirable side actions are comparatively few and generally not serious. There are generally symptoms of malaise accompanying the use of bismuth products in antisyphilitic treatment. The circulatory depression of animals receiving intravenous bismuth does not occur in the clinical use of bismuth as antisyphilitic. A mild stomatitis is indicative of efficient systemic action of bismuth, but most patients obtain the benefits of the antisyphilitic action without this side action. When the stomatitis is frank and definite it is advisable to suspend the medication for a time; as a rule, recovery occurs quickly. Injury to renal function and structure is not demonstrable even after high therapeutic doses. For instance, quantities up to 28 milligrams of sodium iodobismuthite (6 milligrams Bi) per kilogram of body weight in animals, or the equivalent of about 1.97 grams iodobismuthite (0.42 gram Bi) for a 70-kilo adult, have no demonstrable effects. From these facts, and since the estimated therapeutic dose for man may be only one-seventieth to one-fiftieth the fatal dose, the margin of safety in the therapeutic use of bismuth is ample, and much greater than with mercury.

ANTISYPHILITIC ACTIONS

In experimental syphilis, bismuth acts definitely as a prophylactic and curative agent, the prophylactic action being superior. The therapeutic index of different investigators is extremely variable, ranging from about two to seven, but is generally higher than that of mercury, and generally less than that of arsphenamin. The prophylactic efficiency of iodobismuthite is about twice the curative. Clearing of fully developed, acute lesions occurs in from twenty-four to forty-eight hours, somewhat according to the size of the initial dose, and healing occurs in about a week. The lymph nodes of experimental syphilis can be sterilized, as indicated by negative transfer effects in healthy rabbits, and therefore the prophylactic and curative actions are definite and permanent. Correlations between antisyphilitic action and chemical composition or structure of bismuth products have not been demonstrated. The spirocheticidal action of bismuth, as with other antisyphilitic or antiparasitic remedies, appears to be mediated through the tissues of the host. Bismuth is not trypanocidal: a difference from arsphhenamin.

In human syphilis the effects from bismuth are similar to those obtained in experimental syphilis. The effective clinical dose should be the equivalent of about 0.4 to 0.5 milligram bismuth ion per kilo body weight, and a total of from 4 to 5 milligrams per kilo per course for two to three courses. All forms of clinical syphilis respond to bismuth. Simultaneous treatment with arsphenamin is not necessary for clearing and healing of acute lesions, or for sterilizing of lymph glands, but courses of bismuth and arsphenamin may be used alternately. Such mixed medication is justified chiefly for social and humanitarian reasons. On the other hand, such clinical experimentation can never settle the intrinsic value of bismuth or of any other agent as an antisyphilitic remedy. Difficult as it may be, systematic experimentation with a single remedy over sufficiently long periods under the most rigid conditions is the only method which can give the desired answer. Actually, results with bismuth under these conditions, reported by a few clinicians, are encouraging. However, the full value of bismuth as a clinical antisyphilitic remedy will probably be better known after twenty years of sound experimentation. The efficiency of bismuth in early antisyphilitic action is between arsphenamin and mercury, the advantages of bismuth being a fairly rapid and well-sustained action, a high degree of tolerance, a comparative absence of serious injury to the patient, and a promising protective action against the later manifestations of the disease.

The value of bismuth in neurosyphilis appears to be definite, especially when used in the anionic or electronegative form, which dependably penetrates the brain and appears in the cerebrospinal fluid. The efficiency against the late and neuromanifestations appears to be superior to that of the arsphenamins and fully as good as that of mercury. The literature on the presence of bismuth in the brains of animals indicates both positive and negative results, but in patients the results are generally negative. Our tests of human cerebrospinal fluids after total doses up to fourteen grams of some cationic products gave negative results. Preliminary and simultaneous treatments of patients with heat, fever, and various salts do not cause or facilitate penetration. Dependable penetration occurs after products which contain or yield electronegative (anionic) bismuth such as sodium iodobismuthite, which is useful. The concentration of bismuth in the brain may vary from 1:10,000,000 to 1:1,000,000. The concentration of bismuth for antisyphilitic action is exceedingly minute, in fact almost infinitesimal. In the blood of patients on regular courses of bismuth medication the concentration may be equal to about 0.2 milligram in one liter of blood. This is the equivalent of about one pound of bismuth in twenty thousand barrels of blood, the total blood of an army of three-quarters of a million men who would show antisyphilitic effects. Thus, the high antisyphilitic potency of bismuth is indicated.

Since the bismuthized tissues, as in the lesions of treated acute, or early, syphilis, are an unfavorable environment for the syphilitic virus, it is logical to assume that the bismuthized brain is likewise an unfavorable terrain for the growth or propagation of the virus. Since the electronegative bismuth, as in iodobismuthite (iodobismitol), penetrates the brain, without previous treatment of the patient, and acts efficiently as prophylactic (experimental syphilis), it is correct in principle to attempt the prevention of neurosyphilis by the early and persistent treatment of early or acute syphilis with this type of product. Actually, clinical benefits as indicated by negative serology and by general symptomatic improvement after treatment with iodobismuthite have been demonstrated.

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DISCUSSION

Walter F. Schaller, M. D. (909 Hyde Street, San Francisco).—I cannot discuss sodium iodobismuthite except from clinical results, and may say that in a fair trial in neurosyphilitic cases I have been impressed with three features. First, it is well tolerated and not more disagreeable or painful than the ordinary intramuscular injections of like volume; second, it is free from reactions, toxic effects, or other unpleasant sequelae; and third, it has decidedly stimulating and tonic properties of which the patients are conscious and which I may compare to the action of tryparsamid.

Although not producing, as a rule, remarkable changes in serology, certain cases have been definitely improved in this respect; one patient receiving sixty-eight (two cubic centimeters each) doses of iodobismitol (sodium iodobismuthite) alone, eventually showed an entirely negative fluid, which was the first like result following years of treatment, including malaria, intraspinous treatment, mercury, tryparsamid, and the arsphenamins. The combination with iodin seems a particularly fortunate one as this remedy has been neglected in neurosyphilis, particularly the meningitic and exudative forms.

The sole disadvantage of this remedy, in so far as its practical use is concerned, is the necessity of a long-continued course of frequent intramuscular injections, which the patient may be either unwilling or unable financially to continue. For this reason I am still administering in selected cases the insoluble positive ion bismuth preparations.

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Samuel Ayres, Jr., M. D. (2007 Wilshire Boulevard, Los Angeles).—My experience with sodium iodobismuthite is too limited to justify any personal conclusions. A number of my patients are now on this type of treatment and I can corroborate the statement that, up to the present at least, there have been no untoward effects except for a little greater discomfort at the time of administration, characterized by a burning sensation. This usually disappears within a few minutes and I have not observed any delayed local or general reactions.

Doctor Hanzlik and his associates deserve the gratitude of the medical profession for introducing this new remedy which promises so much in the treatment of cerebrospinal syphilis. The value of bismuth in this disease has been amply attested by the experience of many clinicians, notably in Fournier's clinic where bismuth has been used exclusively for over ten years. A bismuth compound capable of adequate cerebrospinal penetration is a notable contribution. Confirmatory clinical observations on the effects of this new drug in the various manifestations of syphilis will be awaited with great interest.

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Doctor Hanzlik (Closing). — The general clinical effects of iodobismitol observed by Doctors Schaller and Ayres confirm those reported by Doctor Mehrtens and his associates at Stanford and by other physicians in different parts of this and other countries. Collectively these reports confirm the results on animals in our laboratory. The antisyphilitic actions on the scrotal chancre and treponema of experimental syphilis are likewise confirmed by similar effects, including negative serology, in acute clinical syphilis. The late manifestations of the disease, such as neurosyphilis, have also been remarkably benefited, as indicated by the results in a hundred mixed cases reported by Doctors Mehrtens and Pouppirt (*Arch. Neuro. Psych.*, 26:1220, 1931). The improvements in serology mentioned by Doctor Schaller were presumably in old cases of syphilis. In such cases the use of prolonged administration of iodobismitol is not surprising, for long periods of medication in chronic disease are the rule. However, it may be hoped that the desirable course and period of clinical medication with iodobismitol will evolve with time and experience.

PULMONARY TUBERCULOSIS—ITS DIETARY TREATMENT*

A CONTROLLED CLINICAL INVESTIGATION

By Emil Bogen, M. D.
and
William Rachmel, M. D.
Olive View, California

Discussion *by Charles J. Durand, M. D., Colfax; Philip H. Pierson, M. D., San Francisco; F. M. Pottenger, M. D., Monrovia.*

It is the consensus of opinion among American phthisiologists that a fairly free varied diet, without any attempt to stress high caloric intake, protein, fat or carbohydrate content, mineral composition or vitamin constituents, but with emphasis upon palatability and acceptability to the patient best meets our present knowledge. During the past few years, however, a special diet with salt restriction has been proposed by Gerson, Hermannsdorfer, and Sauerbruch of Germany and very good results have been claimed, especially in the treatment of tuberculosis of the skin. In this country several workers have reported favorable results with this regimen in pulmonary tuberculosis.

DIFFICULTIES IN EVALUATING RESULTS IN TUBERCULOSIS

One of the great difficulties in any study of the treatment of tuberculosis in man is the natural variability of the disease and the consequent uncertainty of its course, even in the absence of treatment. A well-selected group of control cases must therefore be resorted to in order to evaluate the results obtained. These controls must not only be of the same age, sex, stage and duration of the disease, and living under as closely as possible the same environmental conditions, but their mental attitude should be, so far as possible, similar with regard to the treatment that they are taking, so that the coöperation to be expected may be comparable.

PATIENTS WHO WERE STUDIED IN OLIVE VIEW SANATORIUM

For the investigation of this problem at the Olive View Sanatorium, which is the tuberculosis sanatorium of Los Angeles County, two wards, both under the care of the same physician, were selected in which the general character of the patients was as closely as possible similar. On one of the wards the Gerson-Hermannsdorfer-Sauerbruch regimen was instituted; on the other the patients were kept on the regular sanatorium diet. This was maintained for a period of six months and thereafter the special diet was discontinued. During this time there were more than fifty different patients who were, at one time or another, on each of the two wards, but due to unavoidable admissions, discharges, transfers and deaths, there were only twenty patients in a strictly comparable condition who had followed the special regimen for the greater part of the six months' period, and an equal number of controls who had remained on their ward an equal length of time.

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* From the Olive View Sanatorium of Los Angeles County.

TABLE 1.—*"Special Diet" Group—Clinical Observations on Twenty Cases of Advanced Pulmonary Tuberculosis Before and After Six Months of Special Diet**

No.	Condition Before Treatment						Changes After Six Months						Result
	Age Yrs.	Mos. Ill	Wt. Lbs.	Hb. %	Sed. Time	Sputum	Phys. Exam.	X-ray Exam.	Wt. Lbs.	Hb. %	Sed. Time	Sputum	1 Year Later
1	26	60	116	83	16	Rare	–	0	–8	–4	–6	Rare	Died
2	19	56	154	85	33	Few	†	†	–4	–15	–17	Neg.	Imp. I
3	43	120	165	95	51	Neg.	†	0	†6	†3	†26	Neg.	Imp.
4	24	24	159	94	30	Rare	0	0	†4	–24	†1	Rare	Died
5	51	60	114	85	28	Rare	†	0	–7	–8	0	Rare	Imp. I
6	17	65	97	78	31	Rare	0	0	0	–9	–3	Rare	Imp. I
7	57	25	147	96	36	Few	0	–	†1	–11	–4	Few	Same O. V.
8	47	29	160	92	24	Rare	0	†	–3	–10	†5	Neg.	Same O. V.
9	27	26	114	74	16	Rare	0	–	–4	†6	0	Rare	Imp. O. V.
10	32	13	121	78	16	Rare	0	†	–15	–7	–7	Rare	Died
11	38	8	138	75	28	Few	0	–	†10	†1	–2	Rare	Imp.
12	32	32	132	85	20	Neg.	†	†	†14	†7	†8	Few	Imp. O. V.
13	19	2	122	77	30	Few	0	†	†17	–4	†48	Few	Imp.
14	26	18	108	64	25	Neg.	–	–	–3	†9	–5	Neg.	Worse O. V.
15	22	2	112	80	23	Neg.	†	†	†2	0	†1	Neg.	Same O. V.
16	52	360	100	50	15	Neg.	Died	0	–5	–9	†2	Rare	Dead
17	38	1	151	69	16	Few	†	0	†11	†7	†4	Rare	Worse
18	43	66	96	65	18	Few	Died	0	–5	0	†19	Rare	Dead
19	25	9	134	89	25	Few	0	–	0	†3	–8	Few	Worse I
20	42	50	131	82	49	Few	0	†	†21	†1	–20	Many	Imp. I

* Signs used in these tables are as follows:
†=Improved or gained.
0=No change.
–=Lost or worse.

All of these patients were adult males, who had been diagnosed as having far advanced pulmonary tuberculosis; all of them had had acid-fast bacilli in the sputum, and in thirteen patients in each group such positive sputum had been found within two months of the beginning of the study. The average age of both groups was about thirty-five years; the average duration of the disease since it had been definitely recognized, about two years; and the average previous length of sanatorium treatment, about six months. Thirteen of the test group and fourteen of the controls were ambulatory, the remainder being confined to bed most of the time. Intestinal tuberculosis was recognized in three patients in each group. X-ray examination showed cavities in the lungs in all but two of the test group and in all but one of the controls. The average hemoglobin content of the blood was 76 per cent for the test group, and 80 per cent for the controls. The average vital capacity of the test group was 1750 cubic centimeters; that of the controls was 2050 cubic centimeters. The average weight of the test group was 128 pounds; that of the controls was 125 pounds. In general, then, it may be concluded that there was little difference in the composition of the two groups, either with regard to the types of the patients or the character of the disease.

REGIMEN WHICH WAS FOLLOWED

The regimen employed on the test ward followed as closely as possible the descriptions of the treatment given by Sauerbruch and his coworkers in Germany. The diet was planned according to the directions given, and closely resembles the sample menus presented by Herrmannsdorfer, Emerson, Mayer, and others. Comparison of this diet with that regularly served in this sanatorium shows that it contains a substantial increment of calories which are divided among carbohydrates, proteins, and fats much as is our regular diet, but that the protein intake contains less than half as much of meat and egg proteins as does the regular diet, the difference being largely made up of milk and vegetable proteins. Salt was elimi-

TABLE 2.—*"Regular Diet" Group—Clinical Observations on Twenty Cases of Advanced Pulmonary Tuberculosis Before and After Six Months of Regular Diet*

No.	Condition Before Treatment						Changes After Six Months						Result
	Age	Mos. Ill	Wt. Lbs.	Hb. %	Sed. Time	Sputum	Phys. Exam.	X-ray Exam.	Wt.	Hb.	Sed. Time	Sputum	1 Year Later
1	24	8	136	87	49	Rare	0	†	†2	–3	–5	Many	Imp.
2	30	3	150	88	64	Few	0	–	–2	–5	–9	Many	Same O. V.
3	28	52	150	80	34	Few	0	–	–2	–4	–8	Few	Worse
4	46	3	121	92	43	Few	0	0	–6	–28	–5	Rare	Imp. I
5	44	15	134	65	18	Few	0	†	–18	–1	†1	Many	Died
6	43	10	......	72	25	Few	Died	0	–5	†5	†10	Few	Dead
7	39	36	107	84	31	Rare	0	†	–2	–2	0	Rare	Imp. I
8	26	24	112	85	60	Neg.	0	–	–12	–10	–31	Neg.	Died
9	52	7	144	85	34	Few	†	–	†6	–3	†1	Rare	Imp. I
10	35	69	121	80	36	Rare	†	†	†5	†5	†74	Rare	Imp. O. V.
11	22	11	114	85	30	Rare	0	–	–1	–3	–1	Rare	Same O. V.
12	57	61	124	70	43	Rare	†	0	†6	†2	†15	Few	Imp. I
13	25	13	151	80	56	Rare	†	0	†8	†5	†15	Neg.	Worse I
14	55	3	117	70	23	Rare	Died	0	–7	†10	†9	Rare	Dead
15	38	12	127	85	62	Rare	†	†	–2	†11	†23	Neg.	Imp. I
16	51	90	122	85	32	Rare	–	–	†6	–3	–13	Rare	Died
17	21	2	102	75	25	Many	0	–	0	–5	†13	Neg.	Imp. I
18	33	29	115	73	28	Rare	0	–	†1	†5	–11	Few	Worse O. V.
19	50	2	107	83	14	Rare	–	–	–5	–12	0	Rare	Worse O. V.
20	43	62	128	70	14	Neg.	†	†	†7	†18	–5	Neg.	Same

nated as far as feasible, so that the total chlorid content of the food outside of the milk supplied was less than one gram per day, and no additional salt was allowed with meals. At intervals chemical determinations of the chlorid content of the urine of all of the patients on the diet were performed, and the salt content was generally found to be less than a fourth of what it had been on the regular diet. The mineral mixture described under the name of "Mineralogen" was not obtained from Germany, but instead a salt mixture of known composition closely resembling it was prepared. Cod-liver oil or viosterol was also given the patients on the diet. Since the special diet was made up particularly for this ward, it required additional work and material, and consequently cost considerably more than the regular diet which is served in the cafeteria for all patients alike.

RESULTS IN THE SPECIAL DIET PATIENTS

The results of the special diet, as observed after the close of the six months' trial period, appear quite similar to those reported by Mayer in his series of twenty patients and by Banyai in the twenty pulmonary tuberculosis cases treated an equal length of time in his series. Clinically, pronounced improvement was recognized in six patients, ten showed little change, two became definitely worse, and two died. During this period six of the patients on this diet gained more than five pounds, nine showed no substantial change in weight, and five had lost five pounds or more. X-ray films showed increased fibrosis or decrease in activity or in size of cavity in seven instances, no marked change in eight, and spread or breaking down of the lesions in five. Vital capacity determinations showed some increase in five and decrease in four instances. Microscopic examination of the sputum appeared to show improvement in five, no change in twelve, and retrogression in three instances. The sedimentation rate of the blood became slower in five instances, unchanged in nine, but accelerated in six. The hemoglobin content of the blood had increased in four patients, and was unchanged in eight others, but had fallen by five per cent or more in eight patients.

One year after the cessation of the special diet, investigation showed that three more deaths had occurred, making a total of five; that six patients were still at Olive View; that five had been transferred to other sanatoria or rest homes; and four had been discharged to their homes, one of whom has since reported that he is worse.

RESULTS IN THE CONTROL DIET PATIENTS

The patients in the control group did practically as well as did those in the special diet regimen. Clinically the same results were noted: improvement in six, no change in ten, retrogression in two, and death in two. Six patients gained weight, eight remained about the same, and six lost weight. Vital capacity was increased in four instances and decreased in six. The x-ray showed improvement in six cases, no change in five, and spread in nine. Sputum examinations showed improvement in five, no change in ten, and retrogression in five instances. Hemoglobin was increased in seven instances, remained the same in eight and decreased in five. The sedimentation rate was slower in six, unchanged in six, but was accelerated in eight cases.

TABLE 3.—*Comparative Data*

	Special Diet Patients	Control Patients
Far advanced pulmonary tuberculosis	20	20
Duration of Illness:		
Under six months	3	5
Six to thirty months	8	9
Over thirty months	9	6
Physical Examination:		
Improved	6	6
Unchanged	10	10
Worse	2	2
Died	2	2
X-ray Examination:		
Improved	7	6
Unchanged	8	5
Worse	5	9
Weight:		
Gained five pounds	6	6
Stationary	9	8
Lost five pounds	5	6
Hemoglobin:		
Gained 5 per cent	4	7
Stationary	8	8
Lost 5 per cent	8	5
Sedimentation Time:		
Slower five seconds	5	6
Stationary	9	6
Faster five seconds	6	8
Sputum Examination:		
Improved	5	5
Unchanged	12	10
Worse	3	5
Result One Year Later:		
Home	4	2
Other institutions	5	7
Olive View	6	6
Dead	5	5

One year later investigation showed that three more deaths had occurred, bringing the total here also to five; that six patients were still at Olive View; that seven had been transferred to other sanatoria or rest homes; and two had been discharged to their homes, of whom one has been since reported to be worse.

COMPARISON OF RESULTS

Careful comparison of the results in these two groups of patients leaves little reason to believe that the difference in diet had exerted any influence on the course of the pulmonary tuberculosis. In view of the fact that these results are so closely parallel with those of other investigators, it would appear that the same conclusion might well be applied to their data, namely, that the results, while apparently encouraging, are in reality no more so than might have been expected from this same type of patients on the regular regimen.

IN CONCLUSION

The importance of adequate alimentation in the treatment of pulmonary tuberculosis is universally recognized. No particular regimen, however, has been proved to have any special advantages. Limitation of certain constituents of the diet, whether carbohydrates, protein, fat, chlorids or other substances, have not been shown to exert any beneficial effect, while on the other hand, excess of calcium, vitamins, and other substances have likewise failed to be of specific value in this disease.

Nevertheless, the fundamental requirements for a complete normal diet, carbohydrates in digestible form and with sufficient residue to maintain normal bowel function, fats to supply sufficient calories, more than enough protein to keep the body in nitrogen equilibrium and enough meat and egg proteins to offset the amino-acid deficiencies of some of the vegetable proteins, an adequate supply of all of the minerals needed in restoring the salts excreted during the course of the day and more than enough of all of the different vitamins needed to prevent the earliest symptoms of vitamin deficiencies, all hold in tuberculosis, as in any other condition.

Olive View Sanatorium.

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DISCUSSION

Charles J. Durand, M. D. (Colfax).—Diet in the treatment of the tuberculous has varied to a considerable extent over a period of years. Some twenty-five years ago tuberculous patients were literally overfed. In addition to their regular meals, they were advised to take milk and eggs in abundance. While it is true that under this method of treatment, many patients thrived, others could stand the strain of overfeeding for a short time only and, as result of this excess of food, would sooner or later be the victims of serious gastro-intestinal disturbances. These disturbances usually undid all the good that had been done and often the patient, as a consequence, was worse even than before the institution of overfeeding. Then, as is usually the case, the barriers were let down too low, patients were left too much to their own initiative and suffered from lack of adequate diet both as to quantity and quality.

The advocacy of diets, like that of changes in climate, has moved in cycles—sometimes too much in one direction, to be followed by a period when the pendulum swung too far in the opposite direction. At the present time the tendency seems to be to consider the diet of the tuberculous not so much as to its quantity, as in years gone by, but as to its quality—in particular since Gerson, Hermannsdorfer, and Sauerbruch have advocated their salt-restricted diet. The interest which their studies have aroused and the wide discussion which they have stimulated, show how seriously their theories and opinions have been accepted by the medical profession, but in the literature which these studies have provoked, there are so many adverse opinions offsetting the favorable comments that one cannot accept, unreservedly for the present, the salt-free diet in the treatment of the tuberculous, especially in the treatment of pulmonary tuberculosis.

I think Mariette, in the *Annals of Internal Medicine* (December, 1931) sums up the present-day status of the salt-restricted diet very well when he says: "In Munich the results of this diet have apparently been extremely beneficial in lupus, but not so beneficial in bone and joint tuberculosis, and its value in the treatment of pulmonary tuberculosis has not been so easily determined."

Doctors Bogen and Rachmel have made a very laudable and systematic study of the Gerson, Hermannsdorfer, and Sauerbruch dietary. Their conclusions, following their obserations on two sets of patients, one being used as control, coincide with the observations of other investigators who have made a study of the Gerson, Hermannsdorfer, and Sauerbruch diet and fail to reveal that any great benefit is to be derived from this treatment as applied to those patients suffering with pulmonary tuberculosis. The tables and comparative data worked out by Doctors Bogen and Rachmel are clear, instructive and of marked interest, and they emphasize the conclusions reached by other investigators, that a salt-restricted diet in the treatment of pulmonary tuberculosis is of doubtful benefit and its application should be accepted with an open mind but with a healthy skepticism.

In my own work I have had no experience with this diet, and I still feel that, except in special instances, a well balanced general diet, including a generous supply of fresh fruit and vegetables, with some milk, fulfills the needs of the tuberculous patient. Patients, excepting those whose general condition precludes all possibility of improvement, usually thrive on the general diet, but if they do not additional milk and eggs will, in most instances, remedy the deficiency. In diets, as in all particulars which concern the treatment of the tuberculous, no fast or general rule can be set, each patient requiring, in at least some degree, individualization of his treatment.

In conclusion, I feel that further proof of the value of the salt-free diet in the treatment of pulmonary tuberculosis must be brought forth before it can be generally accepted.

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Philip H. Pierson, M. D. (490 Post Street, San Francisco).—In the search for methods which will help patients suffering from pulmonary tuberculosis diet has received much attention, but as yet no specific diet has been found which exerts a definite influence, either experimentally or clinically. It is instructive to hear of a controlled dietary plan such as is very well presented in this paper, for it is only in this way that we can judge as to its usual results. We all see individual patients who seem to respond at times in a rather spectacular manner to some particular diet, type of medication or procedure, but we must build our general expectancy from a well controlled and sizable group study.

The fact that this so-called Sauerbruch diet has not benefited this group of pulmonary patients should not be taken to mean that the diet may not be of service in cutaneous tuberculosis, for that is all that its authors claim for it. A recent article by Edgar Mayer goes into detail on the chemistry of the subject and he emphasizes the theoretical reason why a low salt diet of this type should be of benefit in lupus. When we consider these points it is quite evident that we are dealing with the manifestation of a tuberculous infection in specialized cells—those of the skin and not those of the lung. Their metabolism is probably quite different. In wounds acid ash diets produced an improvement while the opposite was true when an alkaline ash diet was used, according to Hermannsdorfer. Spiro has shown that calcium chlorid increased the acidity of the tissues, and it has been further shown that vegetables rich in potassium increase the retention of calcium. When sodium chlorid is given in excess to a person it is found deposited in the skin, and when salt has been withheld and then given in large doses urticaria and eczematous lesions have appeared. Sympathetic stimulation is also increased with this storage of salt in the cells. Chemical analysis of skin from patients treated by this low salt diet has shown decreased amounts of salt in these tissues. These are merely excerpts from Doctor Mayer's article and show quite clearly why the diet is more applicable to cutaneous tuberculosis than to its pulmonary manifestation.

In conclusion, I wish to express my appreciation of the careful study that Doctors Bogen and Rachmel have made of this diet in pulmonary tuberculosis. I feel that it is very helpful to know what to expect clinically of it in pulmonary disease.

F. M. Pottenger, M. D. (Monrovia).—One of the most interesting suggestions that has been made in the dietary treatment of tuberculosis in recent years has been the Gerson, Hermannsdorfer, and Sauerbruch diet. This diet has the particular feature of being a departure from the old caloric and the newer vitamin diet, and one that has taken into consideration the salts of the body.

The intention of the authors is to produce an acid diet and one which causes a certain degree of dehydration of the tissues. When the diet is thoroughly analyzed, however, it is quite probable that it may not be an acid diet after all.

This diet seems to have produced certain definite improvement in skin tuberculosis which might be partly due to the relationship of the skin to the salt of the body. The skin contains a very large percentage of the salt content of the body, and in some way it might have an influence on the healing of tuberculosis, all of which has not been proved.

The great difficulty in a diet of this kind is its impracticability. Patients with tuberculosis must eat an ample amount of food over a long period of time in order to keep their nutrition sufficiently high to bring about healing. People who are accustomed to using salt in their food find it exceedingly difficult to eat food that is free from this flavor. This may be only a matter of habit; at the same time it is one that is well ingrained.

The experiments of Doctors Bogen and Rachmel seem to bear out the general opinion of others to the effect that there is no recognizable difference in the improvement of those on this diet and those who are on the normal diets. There would have to be some very definite advantage if one were to be able to secure the coöperation of patients over the long period necessary to bring about a healing.

I have found that the most satisfactory method of treating patients is to give them a wide choice of foods. We try to have them build their diet around a quart of milk a day, which can usually be taken very readily and which furnishes a complete diet with an abundance of the usual and necessary vitamins. I add to this the general diet of cereals, meats, eggs, leafy vegetables, tubers, salads, and fruit.

It is fortunate that during all the time that we have been working on diets for tuberculous people the normal diet taken by most of them includes not only the calories, but the vitamins and the salts that are necessary to the maintenance of health.

RUPTURE OF URETER—A MEDICO-LEGAL PROBLEM*

REPORT OF CASES

By Miley B. Wesson, M.D.
San Francisco

Discussion *by A. H. Rosburg, M. D., San Francisco; J. J. Crane, M. D., Los Angeles; William E. Stevens, M. D., San Francisco.*

A normal ureter cannot be punctured by a catheter. This is not true if a wire stylet is used or the catheter is equipped with a whalebone tip. Diseased ureters whose walls have been eroded by a stone may leak, due to pressure of urine above the stone or pyelographic fluid injected by syringe pressure below, and the accident not be recognized until late because of the relative absence of untoward symptoms.

Aside from external traumatism, the commonest cause of extravasation from kidney pelves or ureter is necrosis from an impacted calculus. When the actual urinary leakage is minimal in amount and there is a prompt tissue reaction, the process may be localized with or without the development of a circumscribed abscess, and the patient frequently recovers without any surgery. However, if the organisms are virulent and the tissue resistance is poor, a devastating phlegmonous gangrenous infection, or septicemia, may then ensue and the patient's condition rapidly becomes critical. Hence, it must be accepted as a working principle that extravasation of urine wherever located and from whatever source is a frank surgical condition. Incision and drainage is the operation indicated. But the time depends upon the acuteness of the infection and the condition of the patient; consequently, failing to operate or delaying operation in cases of urinary extravasation is *per se* not an evidence of malpractice but may indicate good surgical judgment.

Urine will leak through a hole in the ureter only when there is an obstruction to drainage down the ureter, and when the channel of the blocked ureter has been opened the extravasated urine or perinephritic abscess will frequently flow back through the fistula, which in time will spontaneously heal.

REVIEW OF THE LITERATURE

Geisinger [1] recently reported two such cases.

One was of a 52-year-old man who during the preceding five years had had five attacks of renal colic, alternating sides, and on one occasion had passed a small calculus. The pyeloureterogram showed a fistula near the ureteropelvic juncture, with a large extravasation. Because of the poor condition of the patient and the fact that he was improving under catheter drainage, operation was postponed. Eventually, because of the poor function of the kidney, a nephrectomy was done. It was then found that the extravasated urine had drained back into the ureter, the cavity being replaced by scar tissue, and the site of the fistula could not be found. The pathologist reported acute diffuse nephritis with multiple abscesses.

The second patient also recovered without operation, but with no impairment of kidney function. The patient was a 37-year-old man who complained of a

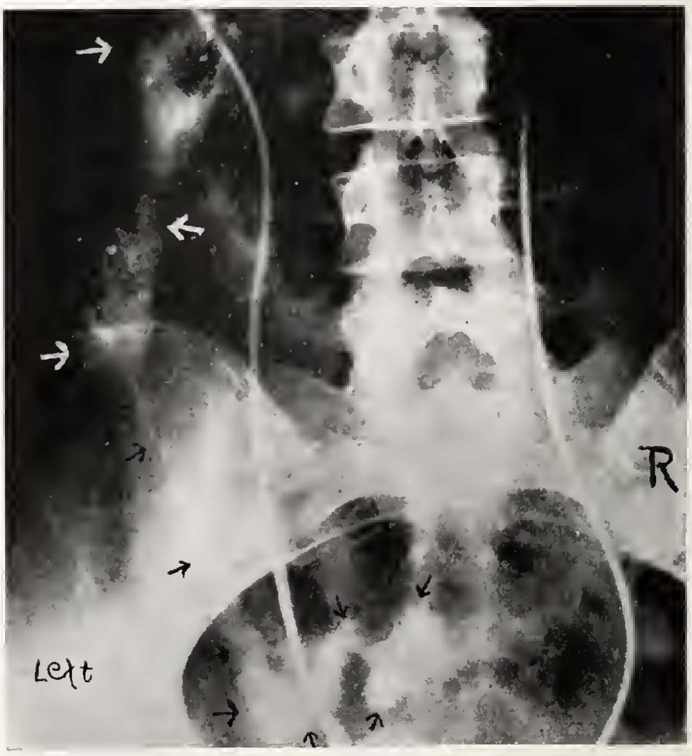

Fig. 1 (Case 1).—Sodium iodid injected through left catheter outlines site of old perinephritic abscess and then trickles down intestinal tract into rectum.

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* Read before the Urological Section of the California Medical Association at the sixty-first annual session at Pasadena, May 5, 1932.

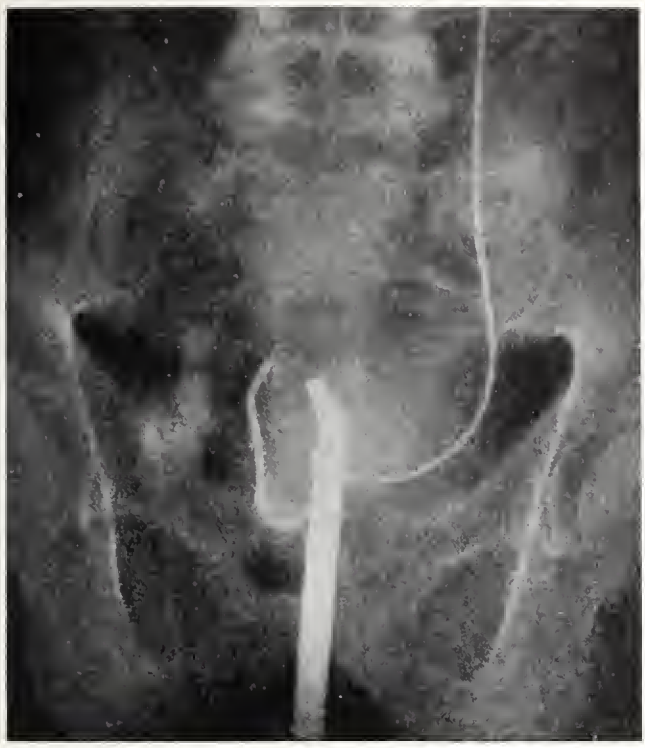

Fig. 2 (Case 2).—Catheter broken against stone. Extravasation of sodium iodid.

continuous decline in health, loss of weight, marked anemia and sepsis, and for two weeks he had noticed a pain and tumor in the upper right quadrant. A flat plate showed stones in the kidney and ureter. Through a ureteral catheter thick pus was aspirated and following this there was a free flow of urine and a decrease in the size of the mass. Thirteen and a half per cent sodium iodid was injected and the picture showed a ureteral fistula and extravasation. Immediate operation was urged and refused, the patient disappeared and it was presumed that he had promptly died. Six weeks later he returned, the picture of health, and announced that he was ready for operation; but investigation showed that the extravasation had drained back into the ureter and the fistula in the ureter had healed.

A perinephritic abscess may burrow through to the surface and rupture externally in Petit's triangle, as in Dr. John F. Pruett's case. A ship steward bumped his loin in making up a bed and several months later a fistula developed. Roentgenograms showed stones in the kidney, and injection of the fistula resulted in a beautiful pyeloureterogram.[2]

Dr. Hugh H. Young[3] has reported a case of ruptured ureter from the Johns Hopkins Hospital. A Kelly cystoscope, with catheter and copper stylet, was used and there was a perforation of the ureter. The 61-year-old woman developed a temperature of 103 degrees and there was considerable local pain. She was treated by rest in bed, and seven days later was discharged no worse from her experience.

REPORT OF CASES

Case 1.—*Perforation of ureter and drainage of resultant perinephritic abscess by spontaneous rupture into descending colon.* (Courtesy of Dr. Robert V. Day.) A 37-year-old woman, who for over three months had had a low-grade septic temperature and pain in lower abdomen, was cystoscoped April 7, 1929, because of frequency, urgency, dysuria, and pyuria. Infected urine was collected from the right catheter and bubbles of gas came through the left catheter. X-ray showed right ureteral calculus and on the left an irregular distribution of shadowgraphic fluid from the tenth rib to below the iliac crest (Fig. 1). A barium enema proved the connection between the descending colon and kidney. Following right ureterolithotomy and drainage of left pelvis there was an uneventful recovery, with the persistence of an intestinal fistula.

Comment.—Apparently a stone, obstructed at the ureteropelvic juncture, eroded through and the extravasation resulted in a perinephritic abscess that burrowed into the descending colon and there discharged the stone, leaving a fistula.

* * *

Case 2.—*Extravasation of thirteen and one-half per cent sodium iodid between layers of pelvic fascia, due to stone in ureter and syringe pressure.* A 54-year-old male had a left ureteral stone of the mulberry type, with a hole in the center which gradually closed, accompanied by severe systemic reactions from the infected kidney. Attempts to dislodge the stone with stiff ureteral catheters were unsuccessful (Fig. 2). Sodium iodid was injected under great pressure, using a ten cubic centimeter Luer syringe, in an effort to force the pyelographic medium past the obstruction so as to make a pyelogram. The patient complained immediately of severe burning at the bladder neck, as if boiling water had been injected (Fig. 3). This discomfort persisted for several days, otherwise there were no untoward symptoms. The stone, which lay in the pelvic spindle, was removed by open operation.

Comment.—The ureteral wall had undoubtedly been weakened by pressure necrosis from the impaction of the rough stone. Pressure of overdistending the plugged ureteral spindle in addition to the traumatism of the catheter, caused the wall to become sieve-like and to leak, but the catheter did not penetrate the wall although sufficient force was used to break the tip. The extravasated pyelographic medium followed the fascial planes downward to the bladder neck. Since there was no urine below the stone the extravasation consisted wholly of 13½ per cent sodium iodid—a normal intravenous preparation—which was promptly absorbed.

* * *

Case 3.—(Courtesy of Dr. George W. Hartman.) This case is comparable in all ways to the preceding one. The patient was a middle-aged man. An attempt

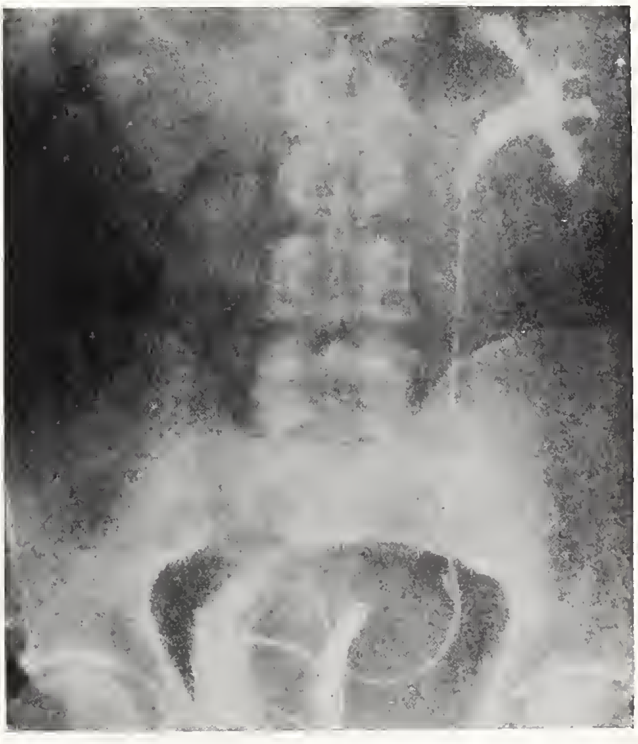

Fig. 3 (Case 2).—Retrovesical extravasation of sodium iodid from ureter.

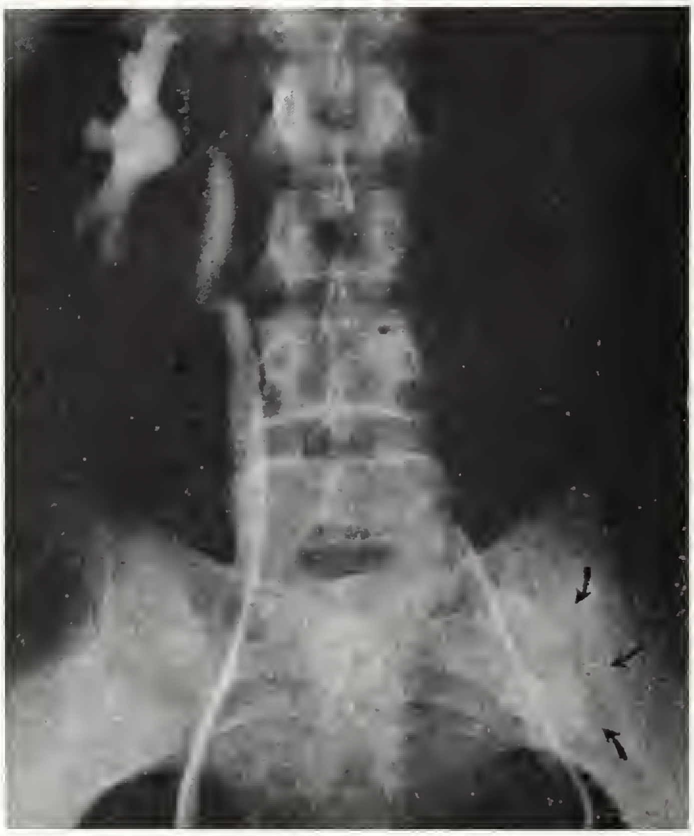

Fig. 4 (Case 4).—Possibly a urinary extravasation, but more probably an incompletely filled left hydroureter.

to dislodge a ureteral stone by manipulation with stiff catheters was unsuccessful; 13½ per cent sodium iodid was injected with a Luer syringe. The patient complained of fire-like burning in the neck of the bladder and the pyelogram showed that although the ureter had been able to resist penetration by the assaults of the catheter, the sodium iodid had leaked through. (The picture is a replica of Fig. 3.) The patient promptly recovered without the development of any untoward symptoms.

* * *

Case 4.—(Courtesy of Dr. James C. Sargent, Milwaukee, Wisconsin.) A 39-year-old woman consulted him on September 28, 1928, with the classical symptoms of right renal ptosis. There was a history of cystitis and right pyelitis beginning at twenty-three. At cystoscopy a No. 6 catheter passed to the left kidney with ease, but on the right met with an impassable obstruction at four and a half inches. A right pyelogram was made and, following the injection of 15 per cent sodium iodid, there was "a stinging sensation in the bladder region." Routine dilatations of the right ureter were carried out at frequent intervals. She had a general visceroptosis with large flabby ureters, a bilateral pyelitis, and unless she was in the Trendelenburg position it was difficult to pass catheters, as the tips caught in the folds of mucous membrane. After an absence of three months she reported on May 9, 1929. She was cystoscoped, No. 6 catheters being used; that on the right met an obstruction at six inches, and on the left at four inches. "Both catheters drained clear urine." Fifteen cubic centimeters of sodium iodid were injected on the right without pain, while on the left five cubic centimeters produced "a typical renal pain. During this injection the solution ran quite freely and no sense of resistance was felt. Both catheters continued to drain." "The patient complained of a slight pain in the region of her left hip and a numbness down the left leg." The pictures showed, on the left, one inch below the tip of the catheter, the shadow of the sodium iodid. It is in the form of an irregular cylinder two inches long and one inch wide, with convoluted sides, and the catheter apparently passes through the center (Fig. 4). In a half-hour she left the office and went home.

Comment.—Doctor Sargent [4] published the case as a catheter perforation of the wall of a practically normal ureter, and it was used with telling effect by the plaintiff in a recent malpractice case. Because of the medico-legal importance of this report, Doctor Sargent sent me a complete copy of all his records of the case and the six pictures, to see if I agreed with his interpretation. I do not believe there is an extravasation. A comparison of the various plates shows that the tip of the left catheter is lying in the course of the ureter; there was no resistance to the injection and the catheter drained freely afterward; there was complaint of temporary parasthesia but not of the burning pain experienced when sodium iodid is injected into the tissues. Unfortunately, bilateral pyelograms were never made and there is no left pyeloureterogram. The pyelographic solution appears to have settled in the bottom of a dilated tube that surrounds the catheter on all sides and shows evidences of peristaltic contractions. There is no resemblance to the other pictures we have of ureteral extravasations. Is this not a hydroureter?

* * *

Case 5.—*Spontaneous perforation of perinephritic abscess into the right ureter, alleged in malpractice suit to be cystoscopic perforation of normal ureter.* A 57-year-old woman complained of fever, palpable masses in the upper left and lower right quadrants, pain, abdominal rigidity, obstipation, and hematuria. A barium enema showed multiple diverticula of the sigmoid and descending colon. Later, from hospital and free clinic records, there was obtained a history of a variety of medical and surgical complaints of many years standing, chief among which were frequency, nocturia, urgency, incontinence, and hematuria; also a two plus Wassermann (University Hospital).

The patient was cystoscoped February 7, 1929, a Braasch cystoscope and No. 5 catheters being used (Fig. 5). Five cubic centimeters of sodium iodid were slowly injected on each side with a Luer syringe (Fig. 6). Following cystoscopy there was an anuria that persisted for several days, but following forced fluids renal function gradually returned. An antagonistic surgeon visited and prescribed for the patient and the cystoscopist at once withdrew from the case. The patient was transferred to San Francisco eleven days after the cystoscopy and under novocain anesthesia the surgeon incised and drained a left perinephritic abscess (that contained no sodium iodid). The operator testified that he inserted his hand through a two and a half inch incision and felt the hole in the ureter. (The patient weighed 208 pounds. The scar is one inch in diameter and directly over Petit's triangle.)

Six weeks later she was recystoscoped by an eminent urologist but no pyelograms were made because of a right anuria. Plain pictures showed a marked elevation of the diaphragm on the right, but its significance not being appreciated the patient was allowed to go home. Five days later, following a hot bath, a mass appeared in the right flank. This proved also to be a perinephritic abscess. The surgeon's fee of $4,000 undoubtedly precipitated a malpractice suit that lasted five weeks.

Comment.—The pyelograms demonstrated the possibilities of trouble from the routine five cubic centimeter syringe injection. If the cystoscopist had used gravity, he would have obtained a good picture and an accurate diagnosis. The films were shown at the Vancouver meeting of the Western Branch of the American Urological Association and there diagnosed as left hydroureter and right

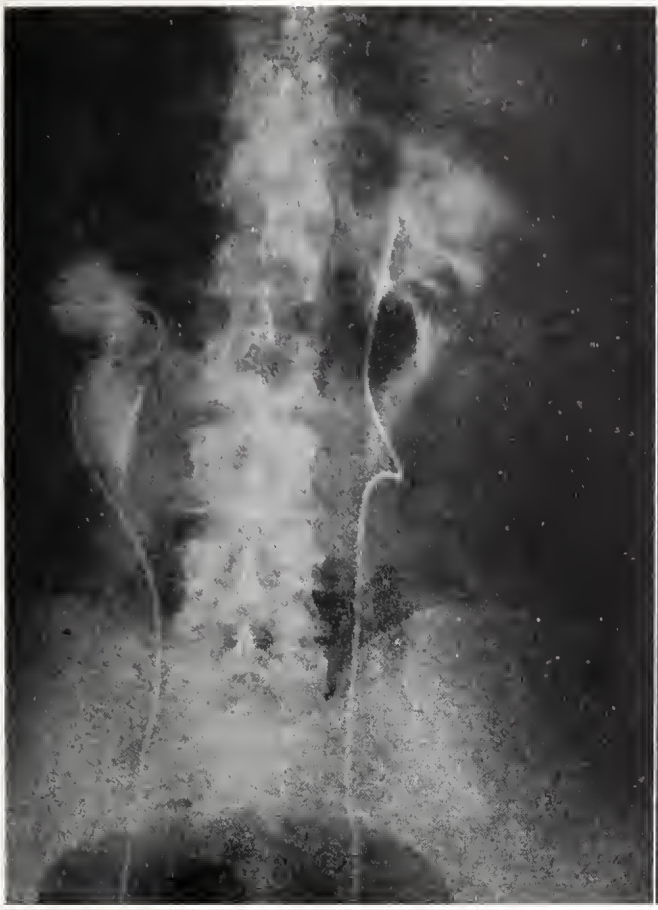

Fig. 6 (Case 5).—Incomplete pyeloureterogram on the reader's left due to use of only five cubic centimeters of sodium iodid, and on the right a partial injection of a perinephritic abscess.

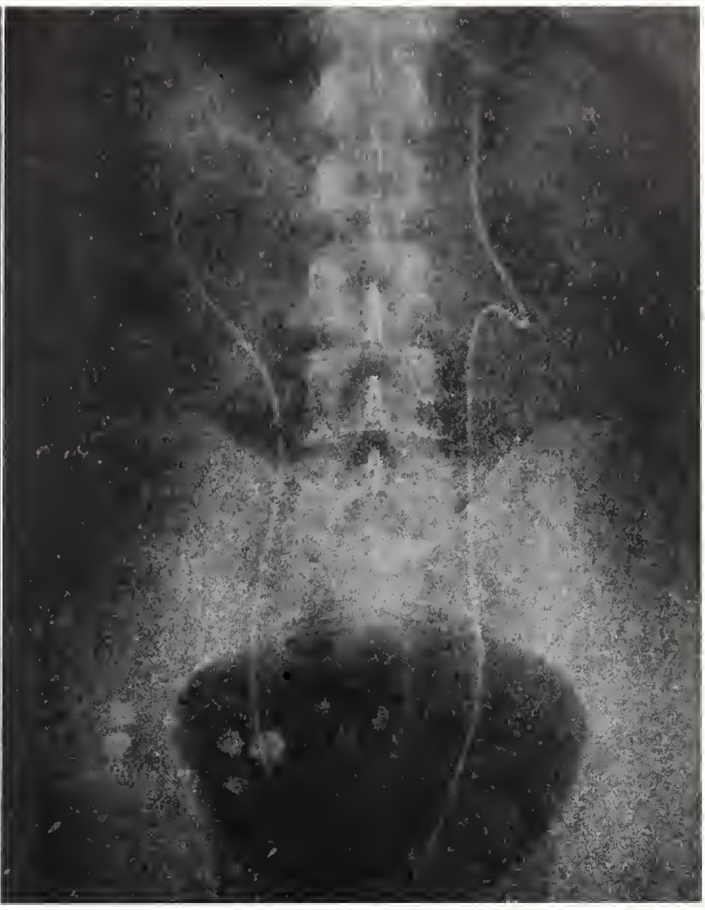

Fig. 5 (Case 5).—Right catheter has passed through a hole in the ureter and lies medial to kidney; psoas shadow is obliterated. Left catheter is coiled in hydroureter. (Pictures are reversed.)

perinephritic abscess, with spontaneous perforation into the ureter, through which opening the catheter had passed. The abscess was apparently draining into the ureter although the psoas muscle shadow is obliterated.

Assuming, as alleged, that both ureters had been punctured at cystoscopy and five cubic centimeters of sodium iodid injected, there would have been a temporary stinging as the injected drug separated the tissues, and after the catheters were withdrawn the sites of punctures would have disappeared, the No. 5 catheters leaving no more permanent openings than would a pin pushed through a coat sleeve. But even if you assumed that gaping holes were left in each ureter, the urine would continue to pass down the patent ureter to the bladder and would not pass out at right angles and burrow into the tissues. When the catheter entered the right perinephritic abscess through the fistula that was undoubtedly plugged with thick pus, a harmless sodium iodid injection was made into the abscess cavity, and when the catheter was withdrawn free drainage of the abscess into the ureter ensued, as in Geisinger's two cases. However, the drainage was not complete, although there was an absence of symptoms for two months; then the fistula blocked and surgical interference was necessary. Failure to operate for perinephritic abscess at once, and particularly on an anuric patient, is not malpractice, for such pathology may persist over long periods of time, Moleen[5] reporting one case of 26 years, Ockerblad,[6] 24, 15, and 12 months, and Habein,[7] 10 months.

The cystoscopist notified the family physician, after an unfriendly surgeon had visited his patient, that he was relinquishing the case, but he made the legal mistake of not formally notifying the family.

At the trial an eminent surgeon testified that he knew of ruptures of normal ureters following the use of syringe pressure in making pyelograms. As urologists we cannot let such a statement go uncorrected, for the mere use of a syringe in making a pyelogram would then *per se* be the potential basis of a malpractice suit. As you well know, I hold no brief for syringe-pressure pyelograms, but there should be no difference between scientific facts in a courtroom and in a medical society.

Pyelograms of the patient had been made a year previous in a hospital clinic and the films were destroyed, on order of the fire marshal, during the period of hysteria that followed the University of California x-ray fire. At the trial, much to the surprise of the urologist who had made the pyelograms, and the hospital superintendent, copies of the destroyed films were offered in evidence and identified by the hospital technician, who did not remember who had given her orders to make them.

OWNERSHIP OF ROENTGEN-RAY FILMS

The question of ownership of roentgen-ray films has never been settled by a court ruling. Recently both the lay and medical press gave wide publicity to the Michigan cases of Hurley Hospital vs. Gage, and Mary Thacker vs. Doctors Barnum and Pinkham. In the first case the patient refused to pay his bill unless he was given the

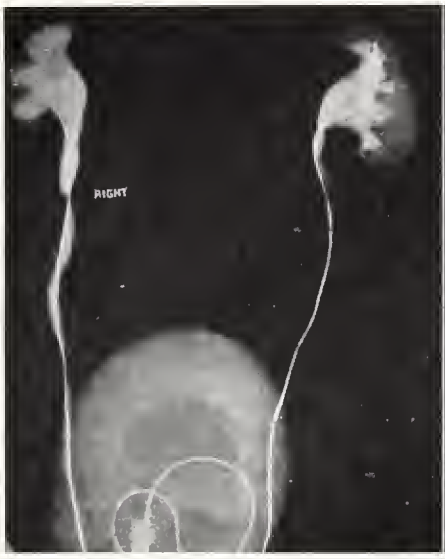

Fig. 7

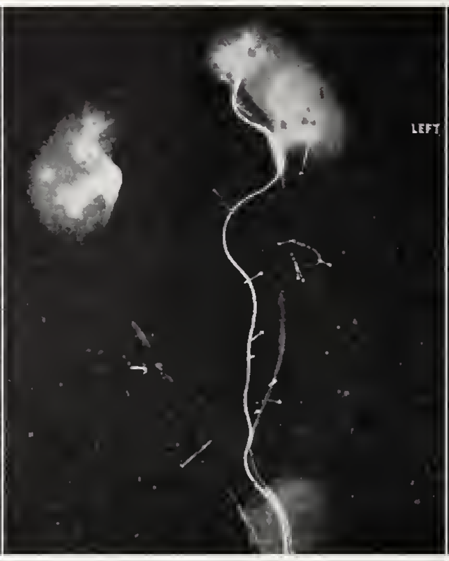

Fig. 8

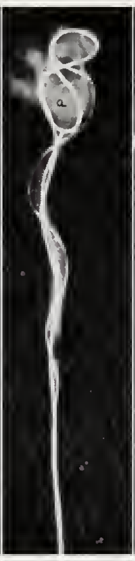

Fig. 9a

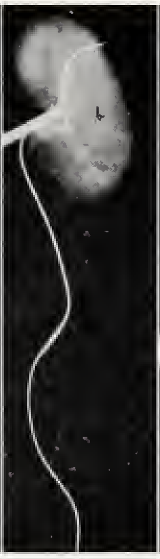

Fig. 9b

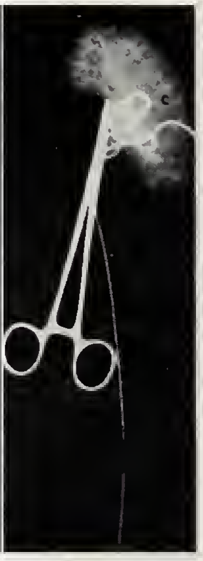

Fig. 9c

Fig. 7.—Routine cystoscopy of autopsy specimen. As soon as resistance is encountered, the catheters buckled between the end of the cystoscope and the ureteral orifices, and curled in the bladder.

Fig. 8.—Autopsy specimen. Bladder opened, ureteral orifice held with artery forceps and the maximum pressure used in an attempt to perforate the ureters. The right ureter has been tied in a knot and in one of the left ureters an artificial kink was made with pins. The twisted appearance of the ureteral catheters is due to the pressure.

Fig. 9a.—Three catheters in one pelvis, to see if a splinted catheter would not perforate.

Fig. 9b.—Catheter tip perforated kidney cortex, but could not be pushed through the capsule.

Fig. 9c.—Catheter with wire stylet pushed through cortex; then wire was partially withdrawn so as to splint ureter. Instead of further perforation, the catheter coiled in the pelvis.

films. The justice court gave a judgment in favor of the patient, but on appeal the circuit court ruled that the x-ray pictures belonged to the hospital. However, the ruling is of no importance as the patient did not contest and the court was not of such judicial rank as to give its opinion any considerable weight. In the second case the court ruled that the roentgen-ray films belonged to the physicians.

The Radiological Society of North America, at their annual meeting December 16, 1920, attempted to settle the matter by resolution. They resolved that "The radiologist is hereby declared to be a consultant in all cases where he is called upon to examine patients," and "that all roentgenograms, plates, films, negatives, tracings or other records of examination are hereby declared to be the exclusive property of the radiologist who made them, or the laboratory where they were made."

Mr. William C. Woodward, the director of the Bureau of Legal Medicine of the American Medical Association, in a personal communication says that the Michigan cases were "heard and decided in identical courts but in different counties. Their enunciation of rules of law are binding on no court, not even on each other." Furthermore, in the absence of any expressed or implied agreement as to ownership, the general principles of justice would indicate that the patient, the roentgenographer, and the physician had qualified property rights in the pictures. "The physician may need it to protect himself from a malpractice suit. The patient may need it not only to support a suit for malpractice, but possibly to guide some future attending physician with respect to diagnosis and treatment. The roentgenographer may need it to protect himself if he is charged with having delivered the wrong roentgenogram to the physician, or of faulty marking in making the roentgenogram. The interest in all parties, it seems to me, will be best conserved by recognizing that each of the parties has only a qualified property right in it, with the actual right of custody vested in the person whose opinion based on such roentgenogram was sought by the patient. The person having the custody of the roentgenogram would then become a trustee, as it were, for the other or others." In other words, the film belongs to the doctors who ordered it made and the radiologist or patient are entitled to copies at their expense.

EXPERIMENTAL STUDY

A series of kidney and ureters, removed en masse with bladder, obtained at autopsy, were used to see if it were possible to perforate a normal ureter with an ordinary ureteral catheter. The specimens were used within twenty-four hours of removal, and during the interim were kept in the icebox. I have been unable so far, apparently due to the activity of the surgeons, to obtain a pyonephrotic, cancerous, or tuberculous kidney and ureter to experiment with, but I now doubt if they would perforate easily. The specimens used were from patients ranging in age from 19 to 55, and all but one were females; the urine reports of all showed pus in the urine, and the ureters were approximately thirteen inches long; all were photographed, but only the unusual pictures are shown.

Technique.—The technique was first to fill the bladder with water, introduce the cystoscope and catheterize the ureters in the routine manner. The catheters used were new, ranging in size from No. 5 probe point to No. 11 Blasucci. The injections were made with 13½ per cent sodium iodid, and ten-inch gravity pressure overinjected in some cases. Syringe injections were eventually used in an attempt to produce tears by pressure. In all cases, after the tip of the catheter had met with resistance in the kidney or obstructions in the ureter, and force was used, the catheters

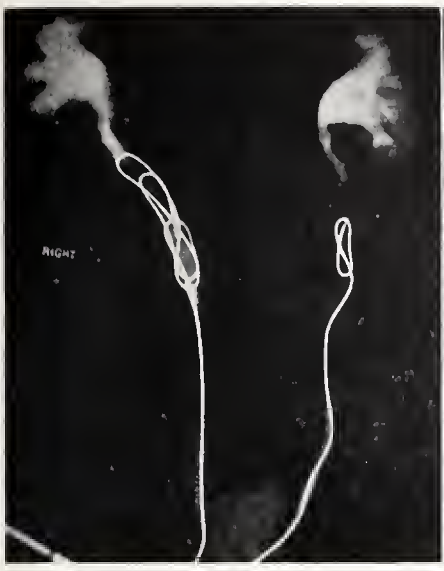

Fig. 10

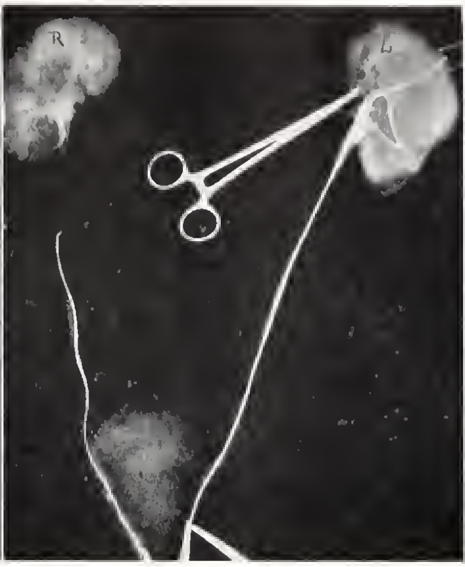

Fig. 11

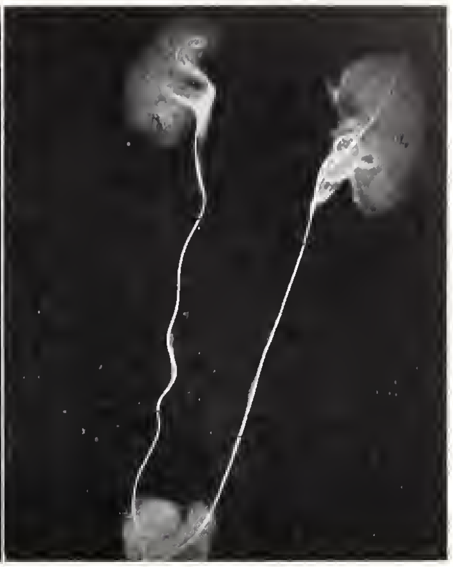

Fig. 12

Fig. 10.—A string was tied tight about the left ureter and increased pressure merely caused catheter to coil in the ureter. The right ureter was compressed with a finger and the tip of the catheter followed the edge of the broad stricture and started back down the ureter before coiling began.

Fig. 11.—Two strictures were made on the right with string; catheter tip has bent against first knot. Left catheter perforated cortex but not capsule. Continuous injection of sodium iodid resulted in decapsulation but not rupture of capsule.

Fig. 12.—Right catheter tip is in middle calyx, excessive pressure caused catheter to buckle and form loop in upper calyx. Left catheter perforated cortex but not capsule; continued pressure caused buckling in pelvis.

buckled in the bladder (Fig. 7). The bladders were then opened and the tissue adjacent to the ureteral orifices firmly clamped with artery forceps and the catheters held close so that they could not bend outside of the ureter and attempts made to perforate the ureter or kidney, using all of the force available in my fingers. By means of pins on a board, sharp kinks were made in the ureters and complete occlusion of the lumen was obtained by means of string, or tying the ureter itself into a tight knot (Fig. 8). Again, several catheters were passed into a ureter in order to encourage the presentation of a tip against the wall at an unusual angle (Fig. 9a). After the tip was caught, there was no further advance of the point no matter how great the amount of pressure used, the catheters merely curling in the pelvis. The knotted catheters were then forcibly dragged downward in the ureter but there was no perforation. Artificial strictures in the ureters and stiff catheters resulted in damaged tips or ureteral coils. Catheters with metal stylets introduced to within about one inch of the tip were tried, but the only damage done was to the catheters. On three occasions sharp-tipped catheters were forced through the kidney parenchyma, but I was not able to pierce the capsule (Figs. 9b, 11, 12). Syringe-pressure injection of sodium iodid solution, followed by air, brought about partial decapsulation, but there was no rupture. In one case a tight knot was tied in the ureter, the sides of the meatus seized with clamps and a No. 5 bougie was introduced with such force as to break the bougie tip, but the ureter held. A No. 11 bougie was then tried. It was so large that it could not bend; two assistants with four artery clamps held the mouth of the ureter and sufficient pressure was used to tear the ureter away from the clamps, but eventually the clamps held and the knot was avulsed. Such force, of course, could not be applied to a living subject, as the bougie would buckle in the bladder.

SUMMARY

The wall of a normal ureter cannot be punctured by a catheter, and it is doubtful if a diseased ureter can be perforated unless a deep ulcer is present. Stones by means of pressure necrosis produce leaks or openings through which the stones fall and the resultant perinephritic abscess may drain into the ureter, the bowel, or on the external surface.

A cystoscopic perforation is impossible for the catheter buckles in the bladder if the point meets with resistance. It was to overcome this difficulty that the now rarely used wire stylet was devised. In the experimental study made on autopsy specimens the bladders were finally opened and the mouths of the ureters held with artery forceps so that the maximum of pressure could be exerted by the tip of the catheter. The most severe test was to tie a ureter in a knot and in no case was a catheter perforation produced.

490 Post Street.

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DISCUSSION

A. H. Rosburg, M. D. (450 Sutter Street, San Francisco).—The old saying, "It is an ill wind that blows no one any good," comes true once more, because here out of a $56,000 malpractice suit blew this excellent paper demonstrating the impossibility of rupturing the ureter with a catheter.

I feel certain that it was the many hours of hard labor Doctor Wesson spent on behalf of the defense in this case, the love and respect he holds for decent fellow practitioners, and his utter failure to understand physicians who will testify against a doctor without first getting all of the facts in a case, that inspired him not only to review the literature and report five very interesting cases of injuries to the upper urinary tract by instrumentation, but to perform this unique piece of research work on autopsy material.

In proving beyond all doubt that it is impossible to puncture with a ureteral catheter or to rupture by overinjecting the normal upper urinary tract, Doctor Wesson has performed an absolutely original experiment that is both scientific and practical and will be of great interest to all physicians. It is a certainty that in the future the cystoscopist, when examining and treating the upper urinary tract, will feel greatly relieved to know that it is impossible to puncture by a catheter or to rupture by overinjection the ureter or pelvis of a kidney.

The author was unable to find in the literature but one case of alleged puncture or rupture by instrumentation of kidney, pelvis, or ureter. In his investigation, he procured from the doctor who reported the case the complete history and all roentgen-ray plates, and further investigation showed that the report was an error, as there was no rupture of the ureter.

It so happens that I am intensely interested in the fifth case reported, because in that instance a San Francisco surgeon, testifying under oath for the plaintiff in a malpractice suit against two reputable physicians, made the statement that the puncturing of ureters, pelves, and kidneys by ureteral catheters or the rupturing by overinjection of the pyelographic solution by syringe pressure, was not uncommon in his hospitals. No physician should be prohibited by law or custom from testifying in court either for or against a physician, provided he first informs himself as to the facts in the case and then confines himself to the truth. He should make the same statements in court that he would before a medical society.

In closing, I wish to ask and answer one question: Why did not Doctor Wesson find in the literature more than five cases of injured upper urinary tract due to instrumentation? Because it is apparently impossible to puncture by catheter or rupture by overinjections, ureters, pelves, or kidneys even when diseased, and where extravasation of urine was found it was present prior to the instrumentation.

⁂

Jay J. Crane, M. D. (2007 Wilshire Boulevard, Los Angeles).—Considering the fact that many unique and ingenious ureteral instruments have been devised and are being used liberally through our modern cystoscopes in the treatment and diagnosis of urological conditions, one wonders why more accusations against them, as having caused grave injuries to the ureters, have not been made. I believe that Doctor Wesson has given us the answer when he states that it is impossible to perforate the ureter with a ureteral catheter used through a cystoscope. I know of no authentic case where such an accident has occurred.

I do know, however, that a ureter may be perforated by a small sharp calculus lodged in its lumen with a resultant extravasation of urine. Two such cases have come to my attention in the past three years. Even in the face of these two cases, I wish to state that the incident of major injuries to the ureter is rare as a result of the frequent passage of, at times, unbelievingly large ureteral calculi, whose passage had required many instrumentations, accompanied by long periods of waiting, during which time the intra-ureteral back-pressure has been greatly increased due to the partial and at times complete obstruction.

We are, indeed, very much indebted to Doctor Wesson for this splendid original work which he has given us.

⁂

William E. Stevens, M. D. (870 Market Street, San Francisco).—Several months ago I removed a large stone from the upper third of the left ureter, just below the ureteropelvic junction. At the earnest solicitation of the patient an attempt was made to save the kidney, notwithstanding the presence of infection. No urine having been secreted by the kidney, a ureteral catheter was passed two weeks later. The catheter probably perforated the ureter, resulting in the formation of an abscess. A small portion of the operative wound was reopened and the abscess drained. Improvement in kidney function as well as a decrease in the infection has followed dilatations of the ureter and irrigations of the renal pelvis.

An interesting case of ureteral perforation was described by Noble, who removed a ureteral catheter from the peritoneal cavity. The catheter had been inserted as a guide prior to the extraperitoneal removal of a ureteral stone. It was found when the peritoneum was accidentally opened during the operation. In this case the ureteral wall had no doubt been damaged by the stone, otherwise the perforation would not have occurred.

Bland collected the reports of four hundred and forty-one surgical injuries of the ureters. In three hundred and ten cases, in which the type of injury was mentioned, perforation of the ureter occurred but once. This was the case described by Noble in which the ureter had in all probability been previously damaged.

Doctor Wesson's interesting experiments confirm the opinion that a normal ureter cannot be perforated by an ordinary ureteral catheter. I have never known this accident to occur either in clinic or private practice during the twenty years that my attention has been devoted to urology.

⁂

M. B. Wesson (Closing).—The discussion has emphasized the fact that it is impossible to perforate a normal ureter with an ordinary ureteral catheter, but that it is easy to puncture a ureter at a site weakened by a partially healed infected operative incision or by the erosion of an impacted calculus. Undoubtedly attempted manipulations of incarcerated stones have been frequently accompanied by ureteral perforations, since the stones if left alone frequently spontaneously rupture the ureter. However, since the perforation of the deep ureteral ulcer by the catheter occurs proximal to the block, it is unaccompanied by symptoms. Dr. C. P. Noble was Dr. Howard A. Kelly's successor at Kensington Hospital, so undoubtedly he used a Kelly cystoscope, and the case he reported demonstrates how easy it is to pass a catheter through a ureter into the peritoneal cavity, if an air cystoscope with a wire stylet is used, accompanied by a "fair amount of pressure," even though it "was not considered violence." In his case the perforation was just outside the bladder wall, the splinted catheter apparently not being able to make the turn. (Am. Med., 4:501-504 (Case 8), 1902.)

Three points are brought out in the paper: (1) It is impossible to perforate a normal ureter or kidney capsule with an ordinary ureteral catheter; (2) roentgen-ray plates belong in the custody of the physician who ordered them made; and (3) it may prove to be very expensive and annoying to withdraw from a case without legally notifying all parties concerned.

GALL-BLADDER SURGERY*

By ALANSON WEEKS, M. D.
AND
G. D. DELPRAT, M. D.
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DISCUSSION *by C. G. Toland, M. D., Los Angeles; Stanley H. Mentzer, M.D., San Francisco.*

THE following analysis is based on a study of the last one hundred unselected patients of gall-bladder disease who came to operation, as taken from the files of our office.

Of these one hundred patients, one died on the tenth day, and one on the second day. These two cases will be discussed in more detail later. Follow-up letters were sent to as many of these patients as possible, seventy answering. While we have confined the analysis to a relatively small series, it is thought that the cases are representative enough to make this analysis valuable, especially because of the often expressed dissatisfaction of results of gall-bladder surgery in general, by various of our medical acquaintances.

SEX AND AGE FACTORS

Sex.—As has been pointed out so frequently, gall-bladder disease is much more frequent among women. In this series seventy-nine were women and twenty-one men.

Age.—As regards age incidence: 17 were below 30 years of age; 15 were between 30 and 39 years of age; 21 were between 40 and 49 years of age; 14 were between 50 and 59 years of age; 2 were between 60 and 69 years of age; and 4 were over 70 years of age. The youngest patient was 16 and the oldest, 73. The largest number fell between the ages of 40 and 49.

SYMPTOM FACTORS

1. *Pain.*—By far the commonest symptom of gall-bladder disease is pain in the right upper quadrant. All the patients had or had had pain in this region for a varying number of years. The pain was either a dull, burning pain in the epigastrium and right upper quadrant, or intense, agonizing pain radiating through to the right shoulder or arm, typical of the well-known gall-bladder colic. The colic type of pain was present in 48 per cent of the patients. Frequently the pain radiated through to the back, and in a few cases down the left arm.

The Murphy maneuver of eliciting pain on pressure up under the costal margin in the gall-bladder region is a constant and valuable sign and was present in 73 per cent of the cases.

2. *Digestive.*—Practically all patients with gall-bladder disease complain of indigestion, characterized by inability to tolerate certain foods, flatulence, belching, sour eructations, feelings of distress after meals, etc. Patients soon learn to avoid fats, rich foods and highly spiced dishes, although often these symptoms occur after the most carefully selected diet. The symptoms are due to pylorospasm, duodenal regurgitation, or to disease of the gall-bladder, causing an interference with its function of emptying the proper quantity of bile into the intestine at the correct time. Symptoms of this kind are as distressing to the patient as the gall-bladder pain, but are relieved by operation to almost the same extent. Gall-bladder disease seems definitely associated with dysfunction of the fat metabolism. Irrespective of what causative agent is responsible for the dyscrasia of the fat metabolism, it is apparent that excess lipoids in circulation lead to the deposition of cholesterol stones. It is common knowledge that pregnancy favors the development of gall-stones, this being due to the increase of cholesteremia of pregnancy.

3. *Jaundice.*—Jaundice is a frequent accompaniment of gall-bladder disease. A slight, or even fairly severe, degree of jaundice is frequently seen in patients with acute or subacute cholecystitis. Unless one assumes some inflammatory involvement of the common duct, or inflammation in the liver itself, the exact explanation of its phenomenon is not evident. In thirty-six patients of this series, jaundice was present at some time. In all but one patient no stone was found in the common duct, nor was the duration or severity of the jaundice in the others sufficient to postulate a stone in the common duct.

We have found that jaundice which is associated with occlusion of the cystic duct by inflammation or a stone wedged into the ampulla of the gall-bladder rapidly clears under preoperative medication. The jaundice of common-duct obstructions is a very different matter and of much more serious significance. Occlusion of the common duct causes back pressure in the biliary capillaries which results in damage widely spread through the liver parenchyma. This is beautifully shown by the dye tests of liver function. It must also be remembered that the lymphatics draining the gall-bladder empty to a large extent into the right lobe of the liver. Acute inflammatory processes in the gall-bladder can thus produce a widespread parenchymal damage in the right lobe of the liver. This can also be shown by the dye test, and after the intravenous injection of glucose the improvement of function can be followed. Damage to liver parenchyma (especially, as will be stated later, with ether anesthesia) adds materially to the operative risk, and these patients should not be operated upon unless with careful and adequate preparation. (The recovery of the liver parenchyma may be easily followed by the dye test.)

An added operative risk in severe liver damage is due to the prolonged bleeding and clotting time. This is not due to interference in calcium metabolism, but due to impairment of fibrinogen production. One function of the liver is the production of fibrinogen and its lack of ability to produce fibrinogen when injured by chloroform was shown by Whipple and Foster in 1919. It follows, therefore, that the administration of calcium in any form, in severe jaundice due to common-duct obstruction, can have very little scientific value.

In the one hundred cases of this series, jaundice was or had been a symptom in thirty-six of the patients. In nine of these patients no stones had been demonstrated at any time, nor had the symptoms in most of these suggested the passage of a stone.

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* Read before the San Francisco County Medical Society, April, 1932.

4. *Nausea or Vomiting.*—Nausea or vomiting is a frequent symptom of gall-bladder disease, more often a symptom, however, of the acute attacks. The cause is apparently a reflex one from pain, although the indigestion, gas dilating the stomach, may be responsible.

PREOPERATIVE CONSIDERATIONS

No case of acute cholecystitis should be operated upon during the acute stage. The only exception to this statement is taken when it would seem, from increasing fever, leukocyte count and pain, that there is danger of gangrene of the gall-bladder with subsequent rupture. In 1924, by means of the Rose Bengal test, it was shown that cases of chronic cholecystitis have a reduced liver function. These tests were made in the interval between acute attacks and it is reasonable to suppose that, during the acute attacks, the actual damage to the liver parenchyma would be even more extensive. Between attacks the test is an index of the scars of the past damage.

When these tests were done their entire significance was not recognized as being of value in the preoperative appraisal of the patient. Graham has recently told us that he uses his dye test as a routine to determine whether the patient is ready for the operation, refusing to operate on patients on whom the function is below 60, until adequate preoperative care has been given.

Before these tests, however, experience or instinct has shown that operation in the acute stages of gall-bladder disease should be avoided. In this series only one patient was operated on in the presence of acute inflammation—and that because of empyema with beginning gangrene. On the average, patients for gall-bladder operations are kept in the hospital for three days before operation. During this time fluids are forced and the patients are given as much glucose as they can tolerate, either in the form of sweetened orange juice or taffy candy. Here again empiricism was invoked! It was found that patients who had had glucose forced (and thus the liver packed full of glycogen) just "did better." Later when the effect of chloroform, and still later ether, was studied on the liver parenchyma, this was explainable. Chloroform causes a central necrosis of the liver lobules when the glycogen content has been reduced. If, however, the liver is packed full of glycogen, then chloroform causes a much less marked effect. Again, if chloroform is administered to an experimental animal and the glycogen content of the liver reduced by preliminary starvation, a liver necrosis is produced. In the case of a dog, one hour's chloroform anesthesia, preceded by three day's starvation, causes sufficient liver necrosis to produce death in several days. If the animal is given 10 per cent glucose twice daily immediately after the anesthesia, the fatal outcome can be averted. Recently a necrosis of liver parenchyma resulting from ether anesthesia has been shown. This again vindicates the value of preoperative glucose, although only a few years ago intravenous glucose therapy was referred to as "meddlesome medicine," excessive fiddling, and the occasion of considerable jocularity.

After proper consideration of the carbohydrate reserve of the patient and a good night's sleep secured by some sedative, such as veronal or sodium amytal, the surgeon can consider the operation.

OPERATIVE PROCEDURES

The gall-bladder is approached by a variety of incisions although the one used in this series was the upper right rectus, one inch to the right of the midline.

On opening the abdomen and exposing the gall-bladder, the surgeon is faced with the question, cholecystectomy or cholecystostomy? Although operation is to be avoided in the acute stages of cholecystitis, it frequently happens that the actual inflammatory processes are more intense than the clinical symptoms would have indicated. If the gall-bladder is tense, red, inflamed, and surrounded by recent adhesions, drainage is the operation of choice.

Even though technically the removal of the gall-bladder may appear not difficult, and the adhesions stripped without much labor or bleeding, still extirpation of the gall-bladder in these acute cases opens too many channels for infection and the patients frequently succumb to sepsis. If in doubt, drain. Of these one hundred cases operated, 15 per cent were subjected to simple drainage. Many patients who had simple drainage operations have gone for years without symptoms.

When cholecystectomy is decided upon, the fundus of the gall-bladder is grasped and subjected to a slight traction. This serves to keep the liver rotated and also to outline quite clearly the cystic and common ducts. By means of careful palpation one notes the presence or absence of stones in the common duct, the condition of the head of the pancreas and whether or not the foramen of Winslow is open. Stones in the cystic duct can usually be squeezed back into the gall-bladder. The gastrohepatic ligament is not dissected open to actually deliver the common duct unless the presence of stones require incision of this duct. A ligature carrier, bearing two ligatures, is passed about the cystic duct and artery and tied at the same spot on the cystic duct. The duct is cut between clamps and the gall-bladder removed from below upward. We consider that the opening of the gastrohepatic omentum by sharp dissection to visualize its contained structures is unnecessary and leads to the excessive formation of scar tissue, which may become one of the causes of complaint after operation. Section of the cystic duct a short distance from the common duct insures against stricture of the latter, nor do we consider such a short cuff as causing "stagnation of bile," favoring the redevelopment of stones.

If the edges of the peritoneum on the gall-bladder fossa can readily be drawn together by running a catgut suture, this is occasionally done.

Usually, however, on releasing the liver it is found that the edges of the gall-bladder fossa fall so well together that suturing is unnecessary and only adds to the time of the operation.

If the appendix can readily be reached through the same incision it can be removed. In eighty-five patients, cholecystectomy was performed, and in thirty-seven of these the appendix was also removed. In the fifteen patients in whom the amount of inflammation about the gall-bladder led us to do simple drainage operations the appendix was not removed, as it was considered unwise to subject the patients who had inflammatory conditions in the upper abdomen, to further operations on the appendix. In a small number of patients in this series, drainage of the gall-bladder fossa was omitted, but now drainage is done in all patients.

POSTOPERATIVE CARE

The after-care of these patients differs in no way from that used in all laparotomies. The patient is placed in a semi-Fowler position. Morphin one-eighth by hypodermic is given as needed for pain, and fluids are administered by the funnel drip. Frequently further fluid in the form of 10 per cent glucose in saline is given. The drain is moved one-half inch or so daily to prevent the serum coagulating about it, and to prevent its acting as a dam and confining the secretions. Frequently there is a considerable accumulation of bile, probably oozing from the gall-bladder fossa, which if not drained will produce the well-known bile peritonitis. A peritonitis from bile seems to favor the development of gas-bacillus infection in the abdomen with its resultant extreme toxemia, and its not infrequent fatal outcome. The work of G. Gordon-Taylor and Whitby,[1] in England, and Leo Hrdina and Edmund Andrews [2] of Chicago is very interesting and explains bacteriologically why the toxemia of bile peritonitis is so severe. The investigations of the latter showed that when sterile bile, or even small pieces of sterile liver tissue, are placed in the peritoneal cavity of healthy dogs, peritonitis results, and the cultures of the material obtained from this peritonitis showed the presence of numbers of anaërobic organisms and the conclusion is drawn that the presence of bile in the peritoneal cavity favors the development of a typical gas-bacillus infection in this region. Here again, clinical observation is confirmed by laboratory investigation.

Drainage does not prolong convalescence, and the presence of the rolled rubber drain is frequently a "life saver." The drain should not be removed earlier than eight or nine days, since frequently the bile does not appear early in the drainage tube. In these patients the late appearance of the bile drainage may be due to the sloughing of the ligatures and the opening of the cystic duct. No treatment is required to close the biliary fistulae. They always close. In two patients the drains were removed too soon, and large pockets of bile accumulated in the gall-bladder regions. Fortunately it remained confined until released by the passage of a curved clamp through the then closed incisions.

POSTOPERATIVE COMPLICATIONS

On account of the soreness after the operation and the rather wide excursion of the liver with respiration, patients who have had upper abdominal surgery seem more prone to develop pulmonary complications, such as postoperative pneumonia and massive atelectasis. Thus far we have not seen the so-called massive collapse. Three patients developed a frank postoperative pneumonia. One of these died. Since 1925 the administration of CO_2 on the table to de-etherize the patient has been used as a routine on all patients operated with ether anesthesia. We have not, however, (as does Graham) always followed this with CO_2 and O_2 mixtures in the patient's room.

The cause of death following cholecystectomy, according to Moynihan, is usually either renal or hepatic insufficiency. One patient in this series died of complete anuria, no urine at all being passed after the operation, in spite of all efforts to stimulate kidney function. Just why this should have occurred is not clear, nor did the preliminary chemical examination of the patient's blood and urine hint at such an outcome.

Ileus occurred in four patients. This requires treatment in the customary manner, with intravenous fluids, hot abdominal compresses, milk and molasses enemata, and pituitrin, etc. We do not consider the incidence of ileus as higher in upper abdominal surgery. Recently a perfectly typical ileus occurred on the second day in a case of simple interval appendectomy in a patient in whom the entire operation had been done under local anesthesia. The second patient who died was a man of seventy-four years, who was not a good surgical risk. However, he considered that life with continued pain to be not worth living and wished to undergo the operation. His gall-bladder was drained, but on the second day the patient developed a pneumonia and an ileus with marked distention, which we were entirely unable to reduce. He died on the tenth postoperative day.

Several elderly patients were operated upon who at the time of operation were suffering from chronic bronchitis of long duration. This resulted in severe postoperative coughing and the continual pounding caused a separation of the fascia and the subsequent development of a hernia. One patient developed whooping-cough, and the coughing caused the wound to open, the wound healing, however, without a hernia.

QUESTIONNAIRE REPLIES

Follow-up letters were sent to all the patients of this survey, but only seventy were reached. Of these, forty-six answered. All but two were definitely improved, although it is possible that those who were least improved would be less inclined to reply to our letters. In these letters the patients were asked to reply to inquiries regarding weight, pain, gas or indigestion, diet. Briefly, the results may be given as follows:

Weight.—Seventy-five per cent showed no increase in weight, their complaint usually being that they had to watch their diet to prevent fat. Twenty-five per cent showed loss or stationary weights.

Pain.—Eighty-eight per cent stated that all symptoms of pain had disappeared. Twelve per cent had some soreness for a varying period after the operation. Three patients had severe colicky pains and even jaundice after the operation, but in a short time these symptoms disappeared. We do not believe that these sharp pains were due to the passage of stones which may have been above in the hepatic ducts or in the liver, nor do we think these pains were due to adhesions because they gradually disappeared. We have told the patients that the pain was due to the passage of thick mucus, that it was due to the bile passages being stretched so that they could take over the reservoir action of the missing gall-bladder, or else that it was spasm of the muscle at the papilla in the duodenum. Diathermy to the upper abdomen for postoperative pain has been of definite help in several instances.

Flatulence.—Regarding the question of flatulence or eructation three patients have replied that they were still bothered in this respect; 92 per cent, however, were definitely improved, 50 per cent of these being entirely free.

Diet.—In respect to ability to eat, the following figures were obtained. Fifteen patients still avoided fats; thirty-one stated that they could eat anything, including cream, butter, mayonnaise, which they had to strictly avoid before operation. Interestingly enough two patients volunteered the statements that their asthma (of many years and of twenty-three years' duration) had not bothered them since their operation. Two patients reported relief from migraine after their operation.

IN CONCLUSION

In conclusion, we consider that operations on the gall-bladder, whether simple drainage or complete extirpation, with proper consideration of preoperative care, and with proper consideration of the time when the patient is operated, are safe procedures, with low mortality, and that a high percentage of cured and thankful patients may be expected.

SUMMARY

Frequent repetition of well-known facts should aid as valuable reminders:

Be sure your patient is in the best possible surgical condition by having recourse to the excellent laboratory facilities which are now available. The Rose Bengal test (Delprat) can now be used routinely to make certain that a reasonably normal liver function is present. This knowledge is of especial value in gall-bladder surgery. The laboratory tests will reveal acute stages of bile-tract inflammation, in which surgery is inadvisable.

Sugar and fruit juices should be forced before any major operation.

Adequate incisions for easy exposure should be made. The simplest amount of surgery in the shortest space of time, consistent with proper work, should be done.

When in doubt drain the gall-bladder, because the less extensive the surgery the less the risk to the patient.

A surprisingly large number of drained gall-bladders never require further surgical procedure.

384 Post Street.

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DISCUSSION

C. G. Toland, M. D. (902 Wilshire Medical Building, Los Angeles).—The subject of gall-bladder surgery is so comprehensive that it is impossible here to discuss more than one or two phases of this interesting surgical problem.

To attain the maximum results in the surgical treatment of cholecystic disease, so many factors must be evaluated that a thorough knowledge of the physiology of the liver and biliary ducts is essential.

The status of the functional activity of the liver is of prime importance, for frequently the success or failure of a gall-bladder operation is determined by the ability of the liver to withstand and recover from the shock incident to a major surgical procedure such as cholecystectomy.

Sufficient time must be allowed in the preoperative preparation to secure the maximum storage of glycogen in the liver that a reserve be established to cope with the rapid depletion which occurs during and after operation.

Such expedients as high carbohydrate feeding, rest, fluids, and, in the acute cases, intravenous injections of glucose are of great value in attaining the necessary glycogen reserve.

The maintenance of body heat during operation tends to conserve energy and prevent shock, but it is doubtful if diathermy over the liver area, as has been advocated, is of much practical value.

In any degree of inflammation of the gall-bladder there will be a certain amount of cirrhosis of the liver. Fortunately this usually remains relatively local, but in the advanced cases it may be a diffuse process. The end-results following an operation in this type of case are never satisfactory.

Clinical studies of a representative group of cases such as has been presented by Doctors Weeks and Delprat are interesting and valuable, for they form a substantial contribution to a better understanding of cholecystic disease.

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Stanley Mentzer, M. D. (450 Sutter Street, San Francisco).—The salient features of cholecystic disease have been admirably covered by Doctors Weeks and Delprat in this review of one hundred consecutive surgical cases. The authors are to be congratulated upon their low mortality which can be attributed largely to judicious pre- and postoperative care.

It was rather surprising that only 48 per cent of the patients suffered from gall-stone colic and that nine of the thirty-six patients who had jaundice had no calculi. Common-duct stones were found in only one of the one hundred cases, which is considerably less than that reported in most operative series.

The crux of this discussion lies in the treatment of acute cholecystitis. This subject is being extensively reviewed in the surgical literature, and a large number of authors, including myself, have reported satisfactory results with early operative interference. The authors have maintained the conservative attitude, but they do not report the number or type of acute cholecystic lesions encountered. The impossibility of preoperatively determining the stage of acute cholecystic inflammation is being recognized and the frequency of unsuspected gangrenes and perforations warrant serious consideration in favor of earlier exploration.

I have been very much interested in the authors' decision to drain all cholecystectomies in the future. The danger of accumulations of bile, and bile peritonitis must be remembered if drainage is omitted. However, if meticulous care is followed in effecting hemostasis in the liver bed, and if anomalous bile ducts, particularly hepatocystic channels, are isolated and ligated, the abdominal wall can be closed without danger in the large majority of patients. The ease of postoperative convalescence warrants such a course.

A comparison of methods in surgery in cholecystic disease is of inestimable value for the determination of the best method of handling the most serious lesions, namely, acute advanced cholecystitis. The conservative attitude of the authors is well presented and their low mortality bespeaks the success of their methods in chronic cholecystitis.

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Doctors Weeks and Delprat (Closing).—We are delighted with the discussion of Doctors Toland and Mentzer.

We wish again to call attention to the importance of simplicity in surgery. This paper was written especially to show a successful, simple technique and to emphasize again the least possible abuse of tissue. We also hoped for more discussion on the question of drainage of the gall-bladder in certain forms of acute cholecystitis, thereby lessening the risk to the patient.

We certainly agree, if symptoms show that the patient is probably developing a perforation of the gall-bladder wall, that operation cannot be delayed sufficiently long to improve the body chemistry, with special reference to filling the liver full of glycogen.

MALIGNANCY—A GROUP PROBLEM*

By John D. Lawson, M. D.
Woodland

Discussion *by Albert Soiland, M.D., Los Angeles; A. R. Kilgore, M. D., San Francisco.*

THE formation of "clinics" and "diagnostic groups" through the association of several medical specialists is a recent development of medical practice. Under conditions created by such an association an optimum position for the patient is established. There is a freer discussion by the various consultants who are related in this way. Ideas may be given without hesitation and without the risk of offending a colleague because of a frank expression of opinion. The members of the consulting staff are on equal terms and as such are free to meet one another without danger of their motives being misunderstood. Finally consultation under such conditions is less costly to the patient.

CANCER CLINICS

According to figures submitted by the American College of Surgeons, there are approximately seventy-five "cancer clinics" in existence at this time. These clinics furnish a number of advantages: (1) they provide complete facilities for diagnosis and treatment of malignancy; (2) records are, generally speaking, more complete and special care is taken that the material contained in these records is such as will furnish valuable information in connection with statistical and research problems; (3) the close association of the staff provides the possibility of frank opinions and open consultation; (4) expense to the patient is minimized.

ADVANTAGES IN GROUP APPROACH TO CANCER

In the study and treatment of malignant diseases the arguments for group practice are stronger than in any other division of medicine. For no condition is there more research work being done or more literature being produced. Immense endowments have been and are being made for study and research. Advances have not been spectacular, yet they have been definite and continuous. In no branch of medicine is more specialized equipment or financial outlay required than in this field.

A group of specialists are able to digest the literature, furnish the necessary finances for equipment, and collaborate with each other in such manner as to create a situation advantageous to the victim of malignant disease. Many groups, already established, have gone far toward securing the necessary staff and equipment for this work.

DIVISION OF LABOR IN GROUP PRACTICE APPROACH

In the diagnostic procedure three medical specialties must be represented. First, a clinician, whether his inclinations be surgical, medical or neither, should obtain a careful history and make a painstaking physical examination. Second, if the lesion involves structures which lend themselves to roentgen examination a roentgenologist should be consulted. Third, the pathologist should properly classify the tumor. In addition, studies should be made by the specialist in whose department the malignancy would be classified.

Competence of consultants should be stressed. The use of lay roentgen or pathology laboratories for the purpose of making examinations should be condemned. The opinion of a physician who has made himself competent by reason of education and experience is essential. It is not an x-ray picture that is desired nor is it microscopic section, but the opinion of a qualified roentgenologist or pathologist who has studied the case in its entirety.

The method of consulting should not be the all too frequent type of consultation in which the specialist agrees that the referring physician is correct in his diagnosis and treatment and acts merely as a relief to carry part of the responsibility. The consultants should arrive at a diagnosis and therapeutic recommendation after a complete discussion in which differences of opinion have been carefully weighed and balanced.

TREATMENT

The treatment of malignancies with colloidal solutions of the heavy metals is still in the stage of observation. The various sera, internal secretory extracts and nonsurgical treatments in general have not been accepted. The elimination of these procedures from consideration narrows the field down to surgery and radiation therapy or a combination of the two. Surgery may be made use of through use of the cold knife, high frequency current, electrocoagulation, or actual cautery. Even though an apparent eradication of the disease has been accomplished by surgery, radiation therapy is universally recommended.

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* From the Department of Radiology, Woodland Clinic, Woodland.

* Read before the Radiology Section of the California Medical Association at the sixty-first annual session, Pasadena, May 2-5, 1932.

The type of treatment, method of administration, dosage, in fact all details of radiotherapy will depend to a large degree on biopsy findings. By reason of this fact the pathologist and radiologist will of necessity maintain a close relation.

There is no desire to discuss here the grading of tumors as practiced by Broders and others. It is, however, pertinent that the radiologist should view, through the eyes of the pathologist, the apparent age of the malignant cell, the degree of differentiation, the amount of fibrous tissue infiltration, vascularity of the tumor, and such other significant factors as may be noted. He must be able to analyze the import of these observations and associate with them a knowledge of cell reaction to radiation. Unless he can do this he will be unable to make a proper prognosis nor will his treatment be laid on a satisfactory foundation.

In every case of malignant disease in which contact is established by the radiologist the major responsibility in the direction of treatment will fall to his lot. It may be that the patient will feel that another member of the staff is the directing physician, but this does not alter the actual situation. Since radiation therapy will be instituted in almost every case either alone or in combination with some type of surgery, it would seem logical that the radiologist be the chairman of the consultation committee. His close contact with the various types of malignancy and his observation of all cases including their response to therapy should fit him for this position. In order that he may properly occupy the chair which circumstance has apparently made for him he must expend every effort and apply himself diligently to keep a few paces ahead of his collaborators.

Should, eventuatly, the radiologist not become the leader in the therapeutic field of malignancy, it will be because he has not applied himself sufficiently to take advantage of the stepping-stones medical advance has placed in position for him.

Woodland Clinic.

DISCUSSION

Albert Soiland, M. D. (1407 South Hope Street, Los Angeles).—Doctor Lawson's presentation of this subject is timely and concise, and in harmony with the best thoughts on cancer study and research today. Unquestionably, collective study of a cancer patient under such conditions as Doctor Lawson suggests is ideal both from a scientific and a practical viewpoint. The work of the American Society for the Control of Cancer, the American Medical Association, and the American College of Surgeons in fostering cancer clinics is highly commendatory, for most of us agree that the cancer problem is the outstanding challenge to clinical medicine and surgery. It is not alone necessary to instruct the public as to the urgency for early coöperation with the medical profession, but it is equally important to educate many of the medical profession who altogether too frequently neglect or fail to recognize a potential or a basic cancer lesion in time to render adequate medical service to the patient. I feel that Doctor Lawson's admonition of teamwork between the clinician, the pathologist, and the radiologist should be especially emphasized.

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A. R. Kilgore, M. D. (490 Post Street, San Francisco).—In the face of a disease, or rather group of diseases, such as cancer is in which the first attack must be the correct attack, consultation offers greatest usefulness before treatment is begun. The problem varies with each type of malignancy and with each case, and the field is far too complicated for one individual to master. For the selection of the correct method of first attack in the individual case, concerted action by clinician, surgeon, radiologist, and pathologist is essential, and for this reason malignancy has become a group problem, not to mention other advantages concisely and logically presented by Doctor Lawson.

THE LURE OF MEDICAL HISTORY*

FRESNO COUNTY—ITS HEALTH ORGANIZATION

A BRIEF HISTORICAL SKETCH

By G. Robertson, M. D.
Fresno

It has been impossible to procure data on the above organization prior to the time of appointment of Dr. E. A. Thoman, whose term of office expired with the appointment of Dr. G. L. Long. Up to that time, the work of the Fresno County health officer consisted mostly of taking care of the quarantining of communicable diseases. There being no deputies in the office in those days, the health officer answered all calls personally. In 1904 Doctor Long succeeded Doctor Thoman. After serving two terms, he was replaced by Dr. Till Burks, who served one term, to be displaced in turn by Doctor Long, who once more took up the reins of the office and continued serving for twenty-four consecutive years.

The salary of the Fresno County health officer at that time was the large sum of $50 per month; this amount was received by Doctor Long for the first ten years of his administration. The population of the county increased rapidly and in 1914 Doctor Long convinced the Board of Supervisors that he needed an assistant. William Scales was appointed as a deputy at a salary of $75 per month, the health officer's salary being raised to the same figure. Some years later, other deputies were added to the staff, namely, an epidemiologist and a school nurse, the late Dr. Charles Benedict and Miss Post filling the respective positions.

SOME FRESNO COUNTY PUBLIC HEALTH PROBLEMS

As stated before, up to the time Doctor Long became health officer, no constructive public health work had been attempted in Fresno County. There was a large field for such work. Typhoid fever was very prevalent as were all the other contagious and infectious diseases. One physician reports having cared for fourteen typhoid fever cases at one time. Fly and mosquito pests were everywhere encountered.

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* A Twenty-five Years Ago column, made up of excerpts from the official journal of the California Medical Association of twenty-five years ago, is printed in each issue of California and Western Medicine. The column is one of the regular features of the Miscellany Department of California and Western Medicine, and its page number will be found on the front cover index.

One of the first things done by Health Officer Long was to make an inspection of the schools and school grounds of the county. These were found to be in a deplorable condition. Poor lighting, poor heating facilities, poor ventilation, contaminated water supplies. The fly menace was the greatest of all. The outbuildings were not constructed in a fly-proof manner and it was a most difficult problem to convince the parents of the danger from these pests. In order to prove that flies carried disease and should not be allowed to travel over babies' food, flour was strewn in open toilets and manure piles. Thus was demonstrated the truth to these unbelieving people when they saw flies with flour-covered wings and feet walking over food that was set out to be consumed by the family. School trustees gradually began to see the necessity of screening against the fly menace.

None of the county schools were equipped with septic tanks. After getting the plan of one which was approved by the engineers who were working on the Fresno State College Building, the first septic tank was installed at the Roeding School. Other schools soon followed this example, until we had the first best school sewer system in the State of California. With the coöperation of 98 per cent of the teachers and 100 per cent coöperation of the Board of Education the fly problem was greatly reduced.

Inspection was begun of the dairies of the county and a constant effort was made to obtain uncontaminated milk for human consumption. This work, with the close check on public water supplies, aided in the fight against typhoid fever.

TWO EPIDEMICS—DIPHTHERIA AND SMALLPOX

Two most serious epidemics occurred during that period. One was the diphtheria outbreak between 1920 and 1923 and the other the smallpox epidemic of 1925 and 1926. Time and efforts were not spared during these outbreaks. By strict observance of the quarantine laws and the untiring work of Health Officer Long and his deputies, the diphtheria scare was soon put to rout. In October of 1925 malignant smallpox broke out in the county. I believe the source was traceable to a Mexican family passing through Fresno from Arizona who stopped at a camp ground intending to work for a few days. One member of the party being taken ill, Health Officer Long was called. After seeing the patient, he immediately diagnosed it as a severe case of smallpox and a quarantine was established. However, before morning the family had left for parts unknown and before many days the storm broke. It was the confluent type of the disease and extra nurses were employed. With the aid of a large percentage of the physicians of the county, a wholesale vaccination program was carried out in both the county and city of Fresno. About 48,000 persons were vaccinated in the county alone. Out of the twenty-six malignant cases, one patient alone survived, and that patient was cared for in a tent in West Fresno.

LATER HISTORY

Up to the above period the health office force consisted of the health officer, one epidemiologist, one sanitary inspector, two school nurses (one of them part time only), one social hygiene nurse (also part time), and one secretary. In the fall of 1926 a school doctor was added to the personnel and it was at this time that the immunization against diphtheria was commenced. Each school was visited and the toxin anti-toxin was administered in three doses one week apart at a cost of 20 cents per person. Practically 13,000 school and pre-school children received the immunizing dose. It was indeed interesting to watch the decrease of the disease after the campaign. On checking up three years later it was found that the number of cases had dropped from over 100 cases to twenty-five cases for the year. In 1930 the number of cases began to increase and for the first six months of the year there was a total of twenty-nine cases against a total of twenty-five cases for the entire previous year. None of these cases gave a history of having been immunized against diphtheria. After the first immunization the work was discontinued as the Medical Association criticized the health office for their activities in Fresno County. Our county was the second county in the state to so thoroughly immunize against diphtheria.

In 1927 the county health officer also became physician to the Fresno County Indians, and a field worker to be known as the Indian supervisor was engaged to assist him in this work.

THE PRESENT PUBLIC HEALTH ORGANIZATION

January 1931 brought a change in the health office organization, but practically all of the incumbent staff were retained. Offices were engaged in the Holland Building and as much equipment installed as was deemed necessary to enable the office to function in an efficient manner. Not a day was lost in transferring the old office to the new and the work is advancing more rapidly than ever before. Pupils in all the county schools have again been given the chance for immunization against diphtheria and smallpox. A large number of the schools have already been inspected with regard to the water supply and general sanitation. All the public camps and resorts in the mountain playgrounds have come in for their share of sanitary inspection, thus making them safe places to enjoy a vacation. The physical inspection of children in the rural schools is progressing in a most favorable manner and pleasing results are being obtained.

One of the outstanding features accomplished during the present administration was the vaccination of approximately 12,000 dogs against rabies. This followed the finding of ten positive cases of rabies in the county. All persons bitten by these rabid dogs were given the Pasteur treatment as were also two others who were bitten by animals showing symptoms of the disease but where it was impossible to make an analysis.

One temporary clerical worker has been added to the staff for a few months to assist the nurses. The Department of Indian Welfare has recently been removed from this department and made a separate unit to operate independently.

Through the efforts of the department, a dental clinic has been established at the Fresno County General Hospital, where those unable to pay for dental attention may receive this service for the small sum of 50 cents per person.

Vaccination clinics have been established and are held in the office on Saturday mornings from 8 to 11 o'clock, and so far have proved very satisfactory.

One thing which has proved so helpful to the entire office force is the wonderful coöperation rendered by the health officer. It is of great assistance to the workers to be able to carry all their problems to the chief and know he will give them his candid opinion and advice.

SOME MEDICAL EXPERIENCES IN PERSIA

By the Late Joseph W. Cook, M. D.

LETTER III*

A TRIP TO ALISHTEH IN LOORISTAN

Written at Hamadan, Persia,
The American Hospital,
September 1, 1931.

KHORAMABAD is due south of Hamadan some 150 miles, but perhaps 250 as the road goes. The trip was the first I have made to a place practically blank on a good map of Persia. Khoramabad is beautifully situated at the foot of several mountains, in a cup; a wonderful citadel in its center bears witness to the almost impregnable fortification of the town. From its 4000-foot level we motored along a fine new road, up a lovely valley, over a pass, and down some 1500 feet to a narrow gorge, across a scary bridge, and up a heavy grade to a roadside coffee house.

A man stepped out and addressed us, in English. The evening before, he said, two robbers had quarreled over their spoils and one had shot the other in the shoulder. Would I see him?

On horseback, with a graybeard guide and two soldiers, we climbed a steep grade for two or three miles to find eight or ten black tents in a little valley tucked out of sight. Our patient, a wicked looking fellow, lay on some pillows on the ground in one of the tents. Removing some folds of shawl, I found they had dressed the wound with lamb's brains, at least sterile and possibly healing. It was only a flesh wound above the shoulder, just missing the lung. Some iodin made him howl. I assured the thirty or forty men and women that he would surely get well, and gave them some iodin. They insisted we should have some lunch. While waiting, we had tea out of the one glass in camp; as we finished, it was passed around to all the robbers as well, and back to us. "Duq," the famous buttermilk or Bulgarian Bacillus milk of Persia, was then handed to us; we found we had taken it from the same bowl we had washed our hands in, but trusted that the bacilli in it would protect us. Fried eggs, black bread, and broiled lamb made up a nice lunch; no knives or forks, so we ate with our fingers.

One of the soldiers accompanying us begged me to give him some medicine to make him sick. "I am so good they won't let me go," he said. "So I want to be sick."

We joined our friends waiting in the car, passed Alishteh, and some miles further left the main road, on which 2000 men are said to be working to hurry this road's improvement, as the Shah is expected this way in a month or so. We came in about ten miles to the wonderful plain of Mishteh, having stuck four or five times in water holes, arriving at sunset at the fort, now used as an office building. It was built fifteen years ago by the famous brigand Mir Ali Khan. A crowd of wondering people pressed around us, asking who we were.

The Governor, Amannllah Khan, greeted us with genuine pleasure, as he had been sick for a month with malaria. Clouds of mosquitoes settled down on us, and we began to have visions of malaria and big spleens for ourselves; but our steps were good, as the Persians say, for the mosquitoes were fewer from that night on than ever before. While drinking cup after cup of tea and waiting for dinner, fourteen prisoners marched by us, chained together with chains about the neck: a bit of old Persia and, I thought, of modern America. They were robbers, and brothers of robbers, held until the real robbers gave themselves up; one was a murderer.

Karim Khan, brother of Mir Ali Khan, was with the Governor, and claimed us as his guests. We gladly accepted and after dinner went to his house, just back of the fort. A room for our kitchen and dressing-room, a roof for our sleeping, and an outside summer-house with boughs of jungle oak overhead made our dispensary and operating room; a fence of reeds bound with black wool cord made a semblance of a room, at least partially screened, but permitting scores of people to lean over and help in our dispensary work. But part of the fun of a dispensary is that dozens of onlookers watch everything, help in the diagnosis, and acclaim with "Bah, bah, bah," which in Persian means utmost approval.

A little girl who had had a blue bead in her nostril for a year and a half was brought and the bead extracted, with loud approval. When a large polyp, for seven years in a man's ear, was removed; when three cataract cases were operated on; a stone in the bladder crushed and the particles exhibited; a stone in the bladder of a little shepherd boy cut for and the stone proudly shown by the father; a bad hand abscess, and also a breast abscess, cut; and when all the patients showed relief, again there were loud shouts of approval. All this meant advertising of our work, legitimate advertising. Whenever hopeless cases came, such as paralysis, cancer, bad asthma, longstanding bronchitis, a boy shot in the back of the neck with resultant partial paralysis, I frankly stated to the parents or friends that there was no hope of cure: they would not die nor get well—no use spending money on doctors—again there was approval. These Loors (for such is the name of these Persians) like honesty and hate deceit. They may rob, but that is done in the open and is not deceit. For this is wild Looristan, a Mohammedan land, not Wall Street.

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* Part I of this paper was printed in the September issue of California and Western Medicine, page 187; Part II in the October issue, page 246.

In six days we treated 1846 patients, took in about thirty dollars; two dozen chickens, a lamb, some sugar, milk, eggs, duq, cheese, and cantaloupes. I charged for medicines and operations only when patients could well afford it. One cataract patient paid eight dollars, another twenty-five cents, another nothing. One stone patient paid for crushing one dollar, the shepherd boy gave us a chicken. One day a fight started and a man was put out of the dispensary after being roughly handled, and I learned he had made slurring remarks about how much money we were taking in; two men struck and cursed him, and informed him we had treated free and given medicine free to over a thousand, and that he was—what he was.

An old man, when asked to sit down for examination, hesitated and said, "I can't. It would not be polite." The Loors are always kidding each other; laughter is as common as cursing; fights are frequent. Our assistant's name was Yeddullah, the Hand of God; but he was known as Yeddie, the first nickname I heard in Persia.

From our bed on the roof we looked out over the plain on thousands of twinkling lights, as if in a great city. Groups of eight or ten tents every quarter of a mile or so, each group representing a family or close friends. Castor oil seems uncommon, so the lights are fed by opium-seed oil, I hear. Every cluster of tents has its husky dogs, veritable stranger-biters and awful fighters. Everyone sleeps on mats or rugs on the ground. Sheep, cattle, and chickens share the tents. A black, heavy-woven goat-hair blanket forms the roof, rectangular, propped higher in the center. Reeds bound by black woolen cords make a fence four feet high; so there is plenty of ventilation. A small hole in the floor forms a fire-box, and cooking is usually going on. All sleep together, but there is practically no immorality; if there is, both parties are killed by the offended one, and no questions are asked. Never have I seen more modest, sweet-faced women, very happy on the whole, in spite of their sad, hard lives. Married at eight or ten, a baby every one or two years, losing four for everyone they keep; if sick, they get well or they die, without too much murmur.

The Loors, like the Kurds, are direct descendants of the ancient Medes. Probably their language is much the same as that spoken thousands of years ago. Loorish and Kurdish are similar and for the most part are mutually intelligible. When pure Loorish was spoken, all we could catch was an occasional Persian word. Legend tells of an ancient city, Ali Ashteh, on this site. Close by are bases of columns, slate colored, and rectangular slabs with half-ball bumps and unintelligible writing, marking graves. From these, bronzes and pottery have been taken; scores are still to be found, but the government has forbidden opening them and removal of relics from the country. Because of the openness of the plain around Alishteh and the presence of government officials, this order is being obeyed; but in Dilfan, twenty miles away, graves are being opened almost every day, graves of unknown antiquity.

In our dispensary the cases were for the most part malaria and bad eyes, literally hundreds of each; frequently we found an eye case which, I am sure, our presence even for a few days, at that juncture, saved from being destroyed. Quinine soon ran out and we were forced to recommend willow-tree bark as a substitute, made into a tea; this is used extensively for malaria. Only two cases of pulmonary tuberculosis were found; six of tuberculosis of the spine, hip, or knees; several cases of cancer; eight of terribly neglected syphilis; no other venereal cases. No pneumonia, no empyema; considerable asthma and chronic bronchitis, presumably from exposure; several gunshot wounds received in skirmishes with robbers, all, fortunately, flesh wounds. One particularly bad-looking fellow with a knee slipping out of joint, due to a bullet through his knee two years before, I advised that only strapping would do, apart from a serious operation. I did the strapping, and charged him, as was suggested to me, twenty cents. The fellow was puzzled and looked with disgust at the bandage. I told him if he wanted his money back to take off the bandage; and he did so. I learned he was one of the worst robbers of all in the district.

A very common complaint was itching. Usually someone shouted, "Lice!" One white-whiskered old fellow had made a pilgrimage to Mecca and was therefore respectfully known as Hadji. He said, "Everyone, every human with flesh and blood, must have lice; maybe few, maybe many, but of course some." At that moment someone reached over the fence and picked a louse from my shirt. I began to believe the old man was correct, at least for Looristan.

Seventy-five thousand tent-dwellers in one district; not nomads, but living in tents the year round, with few exceptions; and this in the year 1931. But excepting their dwellings, the Loors are just like ourselves; they love their children, they love their wonderful valleys and mountains, they love their freedom, including their freedom to pillage their neighbors; they differ from us most, apparently, in being happier; some indigestion but no diabetes, no ascites, no heart or kidney disease, and no insane desire to own the earth.

In all this district of 75,000 there was one school with one class; no doctor at all; one midwife; I talked with her and found she had an uncommon amount of common sense about handling difficult cases.

This is Looristan: a thorn in the flesh of Persia, but men and women calling for help, earnest Mohammedans according to their lights, living like our ancestors of hundreds of years ago. Modern education has not touched them, nor modern medicine. I wonder, can we, or should we, help them?

Sincerely yours,
Joseph W. Cook.

CLINICAL NOTES AND CASE REPORTS

TRAUMATOSIS B. WELCHII—RECOVERY*

REPORT OF CASE

By A. S. Musante, M. D.
M. C. Mensor, M. D.
and
S. Guardino, M. D.
San Francisco

In view of the recent American tour of M. Weinberg of the Pasteur Institute of Paris, who devoted his efforts to impressing upon the medical profession the necessity and efficacy of preventing and combating anaërobic germ invasion in wounds,[1] this interesting case is presented with a title urged by Weinberg, although the patient came under our care several months before hearing him.

REPORT OF CASE

E. P., school girl, eight years old. Wound of left hand from automobile accident three days previously.

Three days before entry the patient was in an automobile accident, being thrown from one side of the machine to the other, but not out of it. She was treated at an emergency hospital immediately, the wound being sutured to prevent further bleeding, about thirty stitches being used, and the hand was loosely applied to a splint. No serum was given. Two days later the hand began to hurt, so the patient applied for aid the following day.

There was a diagonally sutured wound on the dorsum of the left hand, about five inches long, with discoloration of the edges, and edema of the back of the hand and wrist. Crepitation from multiple fractures of the index, middle, ring, and fifth fingers, and much tenderness, as well as a few gas bubbles, were present in the lesion. Pulse was 115; temperature was 101.2 degrees; respiration was 24.

Laboratory Examination.—Blood: White blood cells, 17,200; polymorphonuclears, 76 per cent. Urine showed a trace of albumin. Smears showed *B. welchii.*

X-Ray Examination.—Fractures as above; no gas reported.

Treatment and Course. — Isolation; wound opened widely, splinting, elevation, Dakinization, devitalized tissue removed as gangrened. Tetanus antitoxin prophylaxis day of entry; next day 100 cubic centimeters of Cutter's polyvalent anaërobic serum and 25 grams of glucose in solution were given intramuscularly, as the veins could not be entered. The succeeding four days the same injections were repeated twice, generally followed by chills. The vital signs varied: up to temperature at 103.8; pulse at 140; respiration at 28, remaining normal after the twenty-first day of hospitalization, and at times the condition was critical. All the integument of the dorsum of the hand and a portion of the extensor tendons sloughed off. Smears from the wound showed Gram-negative spores up to the seventeenth hospital day. On the thirtieth day, Thiersch skin grafts were used to cover the clean granulations presenting in the wound, and two weeks later the patient was discharged in good general condition and advised to return for corrective orthopedics.

916 Kearny Street.

REFERENCE

1. Bull. Acad. de Méd., Paris, 105:124-126 (Jan. 27), 1931.

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* From the Department of Surgery, Mary's Help Hospital, San Francisco, Calif.

* Read before Mary's Help Hospital staff, June 3, 1931.

FOREIGN BODY IN MALE URETHRA

REPORT OF CASE

By Paul R. Walters, M. D.
Berkeley

The report of Dr. E. M. Wilder of Sacramento, relating his interesting case of "Foreign Bodies in Male Urethra" in the July issue of California and Western Medicine, reminded me of a very interesting case that occurred in my practice, which I am hereby reporting:

REPORT OF CASE

The patient is a male, married, age fifty-five, by occupation a farmer. He had been working for several days on his farm in the San Joaquin Valley and, as he said, shoveling wheat and barley into a truck. During the late afternoon, he noticed a rather irritating sensation at the external orifice of the urethra; opening his clothes, he discovered what is commonly called a foxtail (*Setaria galuca*) protruding from the organ. In attempting to extract it a piece of it broke off.

He continued his work and the following morning consulted me, stating the above facts. After hearing him tell me the story, at first I could hardly believe it and told him that I felt sure that there could be nothing there because since the time he had tried to extract the foreign body and the hour of consulting me he had had no symptoms of any obstruction, no pain, or hemorrhage.

However, upon his insistence, I inserted a No. 25 endoscope, placing it just within the external orifice of the urethra. With the instrument lighted, I continued the insertion slowly and gradually until I was approximately at the bulbomembranous junction and here I was able to detect several prongs of the *Setaria galuca* protruding externally.

Now the problem of how to remove it presented itself to me. I was situated about one hundred miles from a competent urologist and had no special urological instruments excepting the above-mentioned endoscope, which being a No. 25, as you notice, is approximately one-quarter inch in diameter and nine inches in length.

Here I was with the endoscope in the urethra, a foreign body at the end of the endoscope and unable to reach it. I took a large metal probe from my instrument case and incorporated some cotton on the end of the probe and moistened this with Canada balsam. I passed the probe slowly through the endoscope and gradually incorporating the prongs of the *Setaria galuca,* I kept twisting and rotating the probe and was agreeably surprised to see the foreign body come within the smooth surface of the endoscope from where it was very easily brought out externally.

I think the removal of this foreign body was made much easier because of the fact that its residence of twenty hours within the urethra permitted the body juices to soften it.

2131 University Avenue.

A NEW CYSTOSCOPE

By Francis H. Redewill, M. D.
San Francisco

Urologists have felt the need of an electrode that can be manipulated through a cystoscope in a retrograde position to be able to fulgurate tumors in the vicinity of the vesicle neck. To accomplish this it is necessary to have a good retrograde lens system, a powerful light, and an electrode that can be bent forward as much as 180 degrees. Also, in order to keep the vision

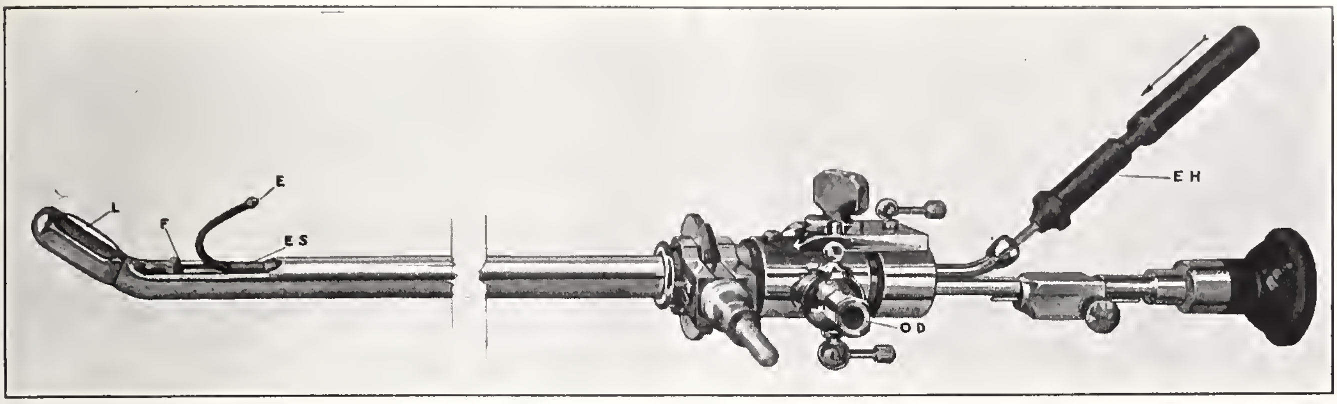

Fig. 1 depicts the entire new foreoblique coagulation cystoscope. Note the foreoblique mirror F against which the end of the straight telescope rests, producing perfect vision to the rear or foreoblique. This observation includes the new electrode E bent back 180°, passing through its sheath E S connected with handle E H. The end of handle pushed in direction of arrow causes the electrode E to bend forward. When the handle is pulled out in opposite direction at E H, the electrode at E is drawn back into its sheath at E S. An extra large globe for brilliant illumination is located at L. O D is outward drain of irrigation solution from bladder. The makers of the instruments described in this article are American Cystoscope Makers, 450 Whitelock Avenue, New York, N. Y.

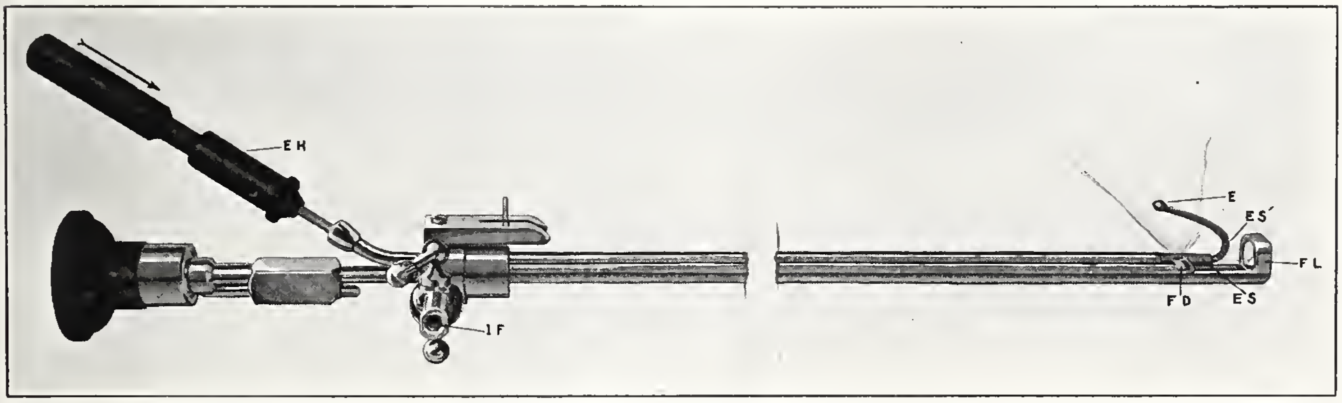

Fig. 2 depicts the Redewill coagulation attachment of the cystoscope shown in Fig. 1. The bending back 180° of the electrode at E S' is due to tempered steel core inside of spiral wire covering. Note the foreoblique lens at F L. At F D is the flow director that projects a stream of water towards the tip of the electrode E, thus rendering the field of operation clear during coagulation. This flow director connects by tubing with intake flow side I F.

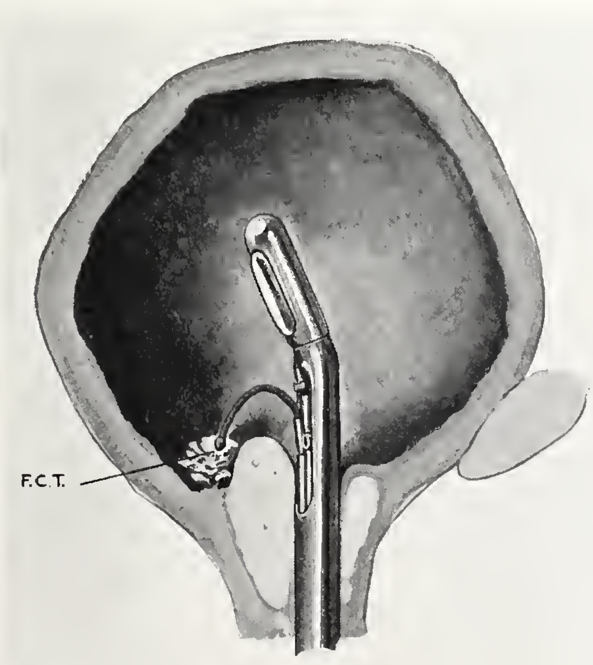

Fig. 3.—Demonstrates the use of the Redewill coagulation electrode coagulating a tumor F.C.T. behind a protruding prostate.

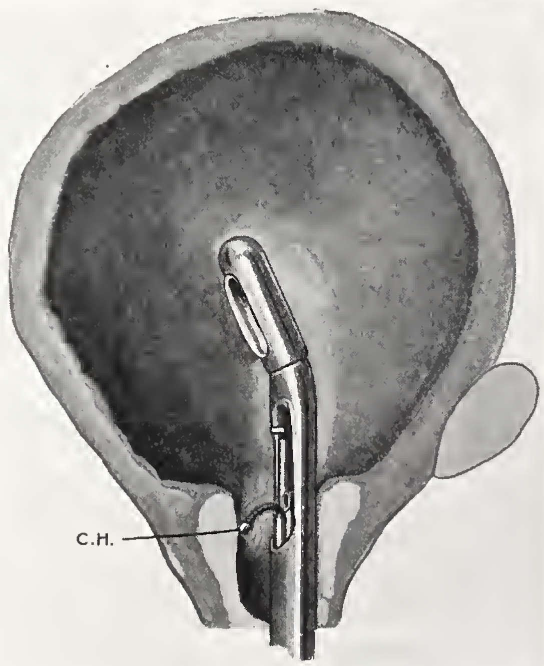

Fig. 4.—Depicts the controlling of hemorrhage with the Redewill electrode following the McCarthy type of prostatic resection. Note the compact arrangement of foreoblique lens, the water director, and the control of hemorrhage at C.H.

clear while coagulating a tumor near the internal urethral opening, the irrigating stream through the cystoscope should be directed toward the coagulating site.

The author, at a meeting of the American Urological Association at Toronto June 1, 1932, demonstrated, as a preliminary report, an instrument constructed by himself that would accomplish this work. Since then prominent cystoscope manufacturers utilized this idea and by combining several of their own devices with the author's plan, somewhat modified, of manipulating a retrograde electrode, they have recently constructed a new cystoscope that is admirably adapted for coagulating around the vesicle neck. Not only is this instrument well adapted for attacking tumors and lesions of the bladder heretofore inaccessible with any cystoscope, but it is also a most useful instrument as an adjunct to prostatic resection in controlling hemorrhage where bleeding has been most difficult to control, *i. e.*, in the vicinity of the urinary bladder neck.

Flood Building.

INFANT MASTOIDITIS IN RELATION TO GASTRO-INTESTINAL DISTURBANCE*

REPORT OF CASES

By A. A. Gilman, M. D.
and
Sol Maisler, M. D.
San Francisco

The following cases are reported to show the close relationship between middle ear, mastoid infections, and gastro-intestinal disturbances. We hold with those who believe that mastoid infection is the etiologic factor of many cases of gastro-intestinal intoxication, excluding those cases occurring in epidemic form. Our first case we offer as a type of positive evidence, the child having been operated upon with a resultant recovery. The second and third cases present negative evidence, no operations having been performed, deaths following and our diagnosis being substantiated by autopsy findings.

REPORT OF CASES

Case 1.—R. D., male infant, age two months. Admitted to hospital on December 15, 1931, with a history of vomiting during the preceding six days which was projectile in type after each feeding, and of having been constipated for the same duration of time.

Past history, negative. Birth weight, eight pounds three ounces. Had been breast fed during night only, having been on an artificial formula during day. Examination at time of admission was negative; weight at that time was nine pounds six ounces.

During the first ten days in the hospital the child was placed on a formula consisting of equal parts of milk and water with some karo. He did not gain any weight on the above formula, but the vomiting decreased to one or two times daily and was nonprojectile. The stools were apparently normal. During that time an x-ray of the chest, a gastro-intestinal series and tuberculins were negative, but the child ran an afternoon temperature of 100 degrees without any apparent cause. On the 24th of December (his tenth day in the hospital) his temperature rose to 101 degrees and there was a suggestion of a neck rigidity, so a lumbar puncture was performed, but the spinal fluid was normal. After the puncture his temperature dropped to normal and remained so until January 7, 1932. With his rise of temperature he suddenly began to have numerous greenish semi-liquid stools and began to lose weight, which dropped down to eight pounds six ounces on the 27th of December. Because of the marked diarrhea, the formula was changed to skimmed lactic acid milk.

After the 27th of December the vomiting decreased to about once daily but the diarrhea persisted, his stools being about eight or nine in number and of a semi-liquid consistency, and his weight increased to eight pounds fifteen ounces.

On January 7, 1932, his temperature rose to 100.8 degrees and his weight dropped to eight pounds five ounces; examination at that time was negative. Because of his loss of weight and his poor turgor, subcutaneous fluids were started. His temperature continued to remain elevated, running as high as 101.6 degrees that week, diarrhea unimproved, and vomiting about the same. On January 12, 1932, his ear drums were opened and some pus found. The ears drained for about one day. In spite of the drums having been opened he continued to grow worse, so on January 14, 1932, he was transfused, receiving 80 cubic centimeters of whole blood intravenously. After the transfusion his temperature became higher, his weight lower, and the diarrhea persistent. Because his ears did not drain well, the drums were again opened on the 16th of January. At that date his temperature was 103.4 degrees; his weight went down to eight pounds two ounces; the carbon dioxid of his blood was about five per cent. The child looked very sick.

On January 18, 1932, the child was again transfused, 120 cubic centimeters of whole blood being given intravenously; at that time the child was practically in extremis. Immediately following the transfusion, a bilateral mastoidectomy was performed, pus and bone necrosis being found over each mastoid antrum. Cultures of the pus taken from the antra during the operation showed streptococcus and bacilli of the *B. proteus* group.

Following the operation the temperature remained elevated until January 22, 1932, or for about four days, when it returned to normal; the vomiting stopped and the stools began to decrease in number, became softer and yellow in color, so that by January 23, 1932, they were apparently normal and have remained so. For several days after the operation 10 per cent glucose and 4 per cent soda bicarbonate solutions were given intravenously as well as saline under the skin. His weight began to rise, so that on January 31, 1932, it had reached nine pounds fifteen ounces. On January 26, 1932, the carbon dioxid content of his blood was 48 per cent. At the present time the child is in very good condition and is almost ready to be discharged.

* * *

Case 2.—S. C., age four months. Admitted to hospital on January 18, 1932, with a history of vomiting and diarrhea of two days' duration. The onset of his illness being rather sudden. Past history was essentially negative.

Physical examination at time of admission is as follows: The child was extremely dehydrated, the anterior fontanelle sunken, his eyes sunken, lips were cherry red in color, the ear drums were dull and bulging, his cry was very feeble, heart and lungs were negative, the liver was three centimeters below the costal margins, the spleen was not palpable. His admission weight was eleven pounds fourteen ounces; his temperature was 100 degrees.

Shortly after admission his temperature rose to 104 degrees, both ear drums were then opened and pus obtained. During his first day in the hospital the child did not vomit but took very little fluids, therefore intraperitoneal and subcutaneous fluids were given. Stools were very green in color and semi-liquid, but only four in number. The day after admission he became worse; he began to vomit all fluids given, while his stools increased in number and became more liquid. His blood chlorids that day was 782 milligrams. The child's condition continued to become progressively worse in spite of all treatment, and he died on January 21, 1932.

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* From the Departments of Pediatrics and Otolaryngology, University of California Hospital.

His autopsy findings were negative except for pus, with very little bony change in the left mastoid antrum.

* * *

Case 3.—P. G., age five weeks. Admitted to hospital on January 18, 1932, as a boarder. Physical examination and past history were negative. Child was breast fed until date of admission. Weight at that time was eight pounds five ounces. The child was placed on a formula consisting of equal parts of milk and water with some karo. The child did fairly well on the above formula, having gained five ounces in weight, until January 25, 1932. He had been retaining all his feedings and his stools were normal in number, color, and consistency.

On January 26, 1932, the stools increased in number, became greenish in color and of a semi-liquid consistency. His weight dropped and he also began to vomit an occasional feeding. The formula was changed, but the child's condition was progressively becoming worse. The vomiting increased, his stools became more frequent and more liquid. The temperature did not rise until January 30, 1932, when it rose to 101 degrees. Examination on January 29 revealed reddened drums, and on the next day the drums were beginning to bulge, so they were opened and pus obtained from both sides. The temperature dropped after the incision of the drums, but the child did not improve. He became extremely dehydrated, began to vomit all feedings, his stools were very frequent and watery. He died on the evening of January 31, 1932. No autopsy was performed, but a postmortem examination of the mastoids revealed some pus, with a slight amount of bony changes.

San Francisco City and County Hospital.

DEPRESSED FRACTURES OF THE ZYGOMA

By F. S. Balyeat, M. D.
Los Angeles

Fractures of the zygoma are often overlooked and, as they should be treated early, the cardinal points involved will be briefly discussed.

The zygoma has four processes: frontosphenoidal, temporal, orbital, and maxillary. The temporal process is long, narrow and thin, and forms an arch when united posteriorly with the zygomatic process of the temporal bone. Fracture occurs chiefly through the temporal, frontal or orbital processes, the body of the bone then being depressed.

Practically all cases are due to trauma such as automobile or airplane accidents, fist-fights, or falls.

The chief signs are: flatness of the cheek eminence, often anesthesia of the upper lip, trismus due to pressure on the coronoid process of the mandible, blood from the nose if injury to the antrum has occurred, and sometimes when the arch is broken a distinct dimple is visible. X-rays are of great value, especially when there is much swelling, the Watters position, as used for the maxillary sinuses, being the best to show this bone.

The treatment is early surgical care. In most early cases excellent results can be obtained by means of the following intra-oral operation. An incision, two centimeters long, is made in the bucco-alveolar fold above the upper last two molars; then by blunt dissection a flat, broad elevator is placed beneath the beginning of the temporal arch and the bone raised upward and outward. Iodoform gauze is used for drainage and if packed rather tightly may aid in holding the bone in its new position.

In some cases it may be necessary to enter the antrum by way of the canine fossa and then raise the bone.

External operations are done by many. In some cases a combination of the two methods can be used. The more commonly used external operations will be briefly described. A screw porte is forced through the skin into the outer surface of the bone and the fracture reduced by upward and outward elevation. Another method is to use an instrument shaped like a large, heavy towel clip forceps, putting one blade on the orbital process and the other through the skin into the outer surface of the bone and then raising the bone to place. For depressions of the arch some make an incision along the border of the arch and raise the depressed process by use of blunt elevators. Occasionally a heavy aneurysm needle can be passed around the beginning of the arch and the fracture reduced.

Good end-results are obtained in practically all cases where reduction is done early.

1136 West Sixth Street.

QUARTAN MALARIA*

REPORT OF CASE

TREATMENT WITH QUINIDIN SULPHATE IN A PATIENT HYPERSENSITIVE TO QUININ

By A. M. Roberts, M. D.
and
C. W. Leach, M. D.
San Francisco

Quartan malaria and hypersensitiveness to quinin, both quite uncommon conditions, have recently been observed in the same individual.

QUARTAN MALARIA—OCCURRENCE

Infection by *Plasmodium malariæ* is quite uncommon in all parts of the world, and particularly so in California. Only one report of the disease in this state [1] has appeared in the literature although a moderate number of cases have been observed. In large series of cases of malaria seen by Craig [2] and Thayer and Hewetson,[3] infections by the quartan parasite have been noted in only one of five or six hundred cases. The disease is said by Bass [4] to be prevalent in certain areas of the United States, as in northeastern Louisiana, but there is no definite substantiating evidence of this on record. From published reports, the Indian Medical Service [5,6,7] has encountered quartan infection more frequently than any other group of observers.

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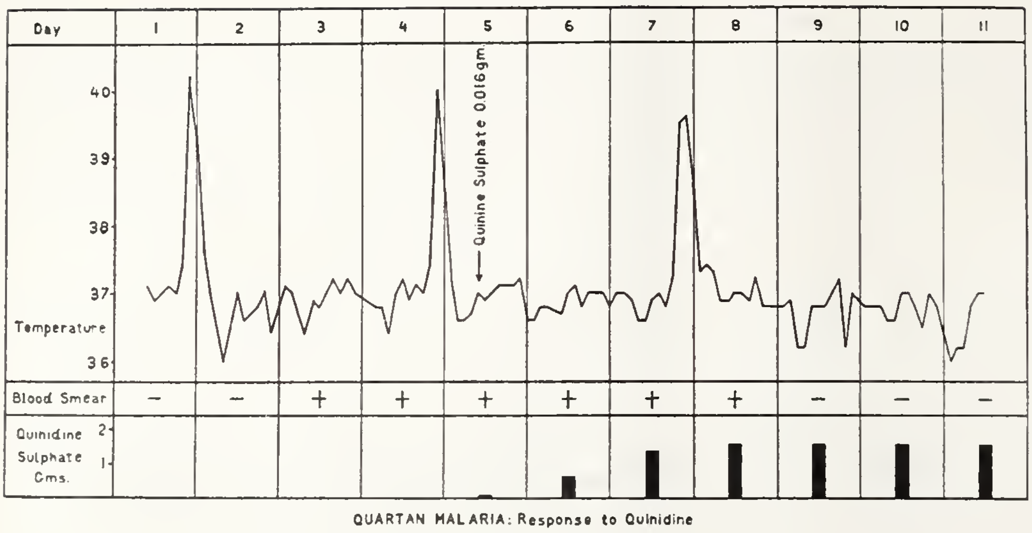

Fig. 1.—Chart showing response to quinidin.

THERAPEUTIC AGENTS IN MALARIA

South American Indians seem to have been familiar with the medicinal value of cinchona bark for many centuries. The recorded use of cinchona derivatives, however, dates from about 1638[8] when cinchona was introduced into Europe by the early explorers. Used first in all fevers, it was found to be especially effective in chills and fever occurring in definite cycles, that is, in malaria. Quinin was soon noted to be the most readily prepared and one of the most effective constituents of cinchona and has achieved almost universal use in malaria. It is known to be curative of malaria when given in effective doses over sufficient time.

Because of unpleasant side effects of quinin and occasional intolerance to the drug, substitutes have long been sought. In view of their effects on spiral organisms particularly, many arsenic preparations have been tried. Their beneficial effect in malaria, if any, was shown to be only slight and temporary. The dyes have been studied, methylene blue in particular having been used in many cases. Here, again, when any effect was noted it was minimal.

Renewed interest in the component alkaloids of cinchona other than quinin was aroused in the second decade of this century. Some fifteen alkaloids of varying toxicity to man and to plasmodia have been investigated. Quinin, cinchonin, cinchonidin, ethylhydrocuprein, and quinidin were studied most extensively. Each of these was found to be therapeutically effective in malaria, quinin and quinidin being most satisfactory and of about equal value.[5, 6, 7, 9, 10]

During the past ten years the German workers [11] have been active in the preparation of synthetic substitutes for quinin. Their efforts culminated in the production of plasmochin, a quinolin derivative, which has been shown by use to be less effective than quinin and much more toxic.[12, 13, 15]

SENSITIZATION TO QUININ

In the ordinary use of quinin there occur unpleasant side actions designated by the general term "cinchonism." In a few individuals an entirely different kind of reaction is noted: nausea, vomiting, headache, dyspnea, coryza, and urticarial manifestations following rapidly on the administration of even small doses of the drug. These reactions are of the nature of allergic responses and are found only in persons who are hypersensitive to quinin. A skin test devised by Boerner in 1917 [16] is said to be prophetic. The hypersensitiveness to quinin has been shown by several well-studied cases,[17, 18] to extend often to the other levorotatory alkaloids of cinchona, whereas their dextrorotatory isomers [10, 19, 20] could be administered without ill effect. This is especially striking in the case of quinin and quinidin. In practically all of the reported cases the hypersensitiveness is acquired, *i. e.*, sensitization has occurred, after the use of quinin.[20, 21] Local sensitization, as of the skin,[22] without hypersensitiveness to general administration has been noted. Attempts at desensitization have been claimed by some observers to be successful,[23, 24, 25] but have failed in most hands.

REPORT OF CASE

On February 16, 1932, a single American salesman of thirty-three years entered Lane Hospital, with a complaint of chills and fever for ten and one-half months. The family history is important in that intolerance to quinin is not present in the other members of the family. The patient had traveled widely in the United States, Europe, Africa, Asia, Philippine Islands, and South America from 1920 to 1925, but has been in the western United States since then.

He was perfectly well until one evening in April, 1931, when he was seized suddenly with a severe chill followed by fever of some twelve hours' duration. The chill and fever recurred four days later and every three days thereafter, with two exceptions, until entry into the hospital. During July, 1931, the seizures occurred daily for about thirty days. In January, 1932, there was a period of sixteen days of freedom from seizures. During the past year he had lost forty pounds in weight.

From experience with various cold remedies, the patient knew himself to be intolerant to quinin. However, at the behest of physicians he took quinin in May, 1931, and again in September, 1931. Each taking of the drug was followed by a severe general reaction, characterized by nausea, vomiting, generalized itching and erythema, lacrimation, tinnitus, and photophobia lasting several hours. After these experiences the patient carefully avoided further quinin medication. In December, 1931, he was given five intravenous injections of neoarsphenamin without appreciable effect upon the attacks.

Except for obvious weight loss and a moderately enlarged spleen, the physical examination was negative. The blood showed 4,300,000 red cells, 78 per cent hemoglobin (Sahli), 8,250 leukocytes with 66 per cent polymorphonuclear neutrophils and 30 per cent lymphocytes. The blood Wassermann, blood cultures, and microscopic agglutination of the patient's serum with meningococcus antigen were negative. Urine and stool examinations revealed nothing to aid in the diagnosis.

On the evening of entry the patient had a characteristic malarial paroxysm with malaise followed after thirty minutes by a severe chill with fever to 40.2 degrees centigrade (R). His temperature remained above normal for nine hours. Seventy-two hours later this course of events was repeated.

Repeated blood studies on the first two days of hospital admission revealed no malarial parasites. On the third day, however, typical quartan parasites were found in small numbers.

On February 19 an unsuccessful attempt was made to produce a skin reaction to quinin sulphate 1:100,000 solution. On the following day, February 20, a test dose of 0.015 grams of quinin sulphate was given by mouth, resulting fifteen minutes later in itching of the scalp. The itching soon became generalized. Within twenty minutes the patient was nauseated and vomited repeatedly, a generalized erythema with chemosis of the conjunctivae and marked lacrimation developed. Stroking of the skin produced a typical urticarial response. An injection of 0.5 cubic centimeter of 1:1000 adrenalin hydrochlorid solution brought about marked relief within five minutes. The original symptoms recurred, however, within half an hour, to persist, with gradual amelioration, for two hours longer. Four hours after taking the quinin the patient felt quite well. Later that day he was given 0.067 grams of quinidin sulphate in divided doses without event. On the following day he received 0.65 grams of the same drug. Thereafter, for four days he was given 1.6 grams of the same drug, quinidin sulphate, daily in four doses. On the third day of quinidin administration the anticipated chill and fever occurred, with only slight alteration (see chart). On the second day after this chill the parasites disappeared from the blood. No further chills occurred. For thirty days after dismissal from the hospital on February 26, 1932, the patient received 1.2 grams of quinidin sulphate daily. To date, June 1, 1932, there has been no recurrence of symptoms, and there has been a gain of thirty pounds in weight.

COMMENT

This case is of particular interest in that it shows: First, the absence of familial hypersensitiveness to quinin; second, the lack of sensitiveness to quinidin in an individual extremely sensitive even to a minute dose of quinin; and third, the efficiency of quinidin in the treatment of quartan malaria.

SUMMARY

1. *Plasmodium malariæ* infection is relatively rare.

2. Hypersensitiveness to quinin, which is usually not inherent but due to sensitization, is uncommon.

3. Sensitization to levorotatory cinchona alkaloids does not usually extend to their dextrorotatory isomers.

4. The occurrence of quartan malaria in an individual hypersensitive to quinin is herewith reported.

5. Quinidin sulphate is effective in the treatment of quartan infection.

2341 Clay Street.

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SPIROCHETA PALLIDA—ITS IDENTIFICATION *

By Stanley O. Chambers, M. D.
Los Angeles

THE darkfield procedure remains the most accurate method for identification of syphilis in its earliest stages.

Improvement of any part of this procedure to allow for a more accurate appraisal seems of distinct value.

The following drawing represents a very simple device having as its major principle, suction. Such devices have been suggested before, yet their common usage has apparently not been adopted.

A five or ten cubic centimeter Luer syringe is attached to a centrifuge tube by a short piece of

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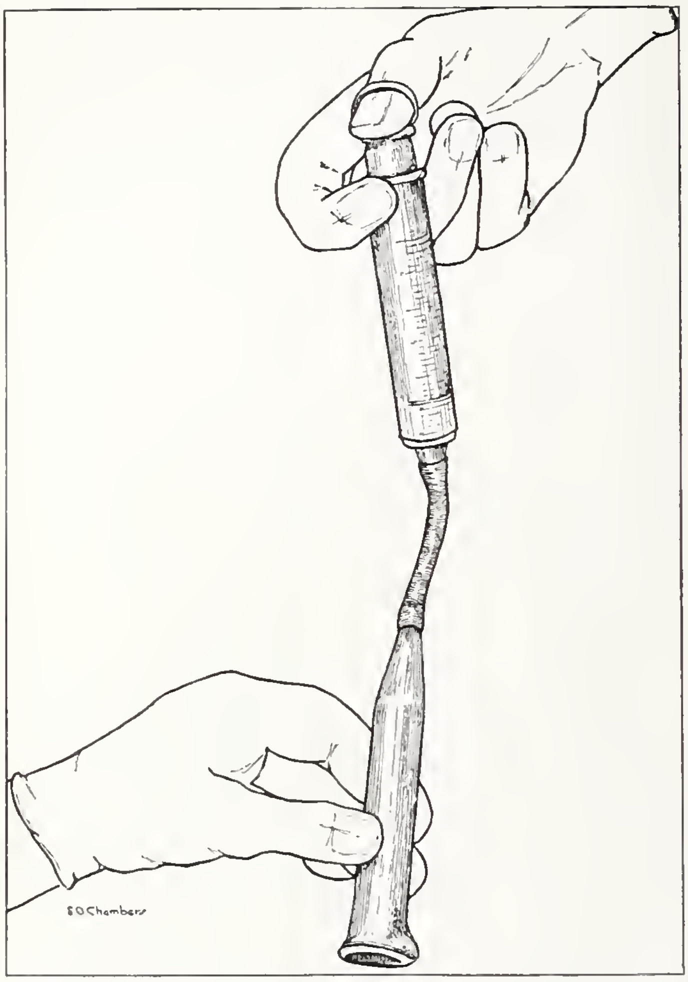

Fig. 1.—The open end of the tube is placed over the lesion with the left hand while the right hand holds the syringe.

heavy rubber tubing. The small end of the tube is opened by filing and breaking of the tip. The open rim of the tube at the opposite end is slightly evaginated by a hot iron so as to form a small cup on the side of the rim. A very thin portion of the rim remains as a threshold.

The open end of the tube is placed over the lesion, with the rim tightly pressed against the skin to prevent the entrance of air. The syringe barrel is pulled upward and held. The tube is placed at an angle with the cupped side down, while the serum from the lesion gradually fills the cup. The syringe barrel is released slowly, then the tube is gently withdrawn. The tip of a small capillary tube is inserted into the serum in the cup and a sufficient amount obtained, which is placed on a glass slide for examination.

The addition of this method to the darkfield procedure has increased markedly our percentage identification of *Spirocheta pallida* in suspected lesions.

727 West Seventh Street.

HEMOPHILIA—REACTION TO OVARIAN SUBSTANCE THERAPY

REPORT OF CASE

By A. A. Bird, M. D.
Oakland

In the *Journal of the American Medical Association,* July 25, 1931, Birch gave a preliminary report on hemophilia and the sex hormone. In his small series an absence of the female sex hormone from the urine of hemophiliacs was noted. Having a case of hemophilia, which was being prepared for surgery by all the known coagulant methods with very indifferent results, I determined to exhibit whole ovary and observe the influence it might have.

REPORT OF CASE

Paul B., age nineteen years, first-born, normal birth, breast fed. Family history negative, except maternal grandfather, living, age eighty-six, is a mild hemophiliac, has never had any major surgery but has a history of supposed erysipelas following any severe bruising, when teeth were extracted pressure had to be used for days to keep down the bleeding. Patient was circumcised at age of three. Bleeding began second day, mother stated, and "he almost bled to death." Number of days not specified. Tonsillectomy at age of sixteen. Hemorrhage on third day. In hospital two weeks, requiring hypodermics of coagulin and mechanical pressure before cessation of bleeding. Frontal sinus and maxillary antrum trouble for last three years, resulting in a badly run-down condition at age of nineteen.

Seen by Dr. Jau Don Ball, July 3, 1931, and by Dr. A. W. Hebert, July 13, 1931, who gave a diagnosis of deflected septum with ethmoid and sphenoid cloudiness which might clear up following a submucus resection.

Preoperative blood picture showed markedly deficient calcium content with a coagulation time of seven minutes thirty seconds.

Was ordered to have stypticate five-grain tablets three times a day, and calcium-building diet which, after ten days, brought the coagulation time down to six minutes twenty-five seconds, bleeding time seven minutes.

Without changing the above diet, five grains whole ovary enteric coated was exhibited three times a day for eight days. Bleeding time one minute thirty seconds, coagulation time three minutes.

August 24, 1931. Submucus resection done under local anesthesia by Dr. Lewis F. Morrison at University of California Hospital, with less than a teaspoon of oozing. Slight bleeding on August 26 and 27. Convalescence uneventful, with only normal amount of secondary oozing and complete recovery in three weeks. Ovarian substance continued. Stypticate stopped.

October 11. Impacted third molar removed. No hemorrhage. Severe cellulitis, with abscess formation pointing below mandible. Incised, drained and healed normally. Ovarian substance discontinued.

October 22. Secondary abscess occurred at site of first one. Pointed alongside old scar. Incised through the devitalized tissue at the point, curetted, drained and healed after marked bleeding on third day, relieved by manual pressure. X-ray study of original area of tooth extraction to determine the possibility of a beginning osteomyelitis, revealed a shadow which might be such a focus.

November 22. Without a check on the bleeding time and under gas anesthesia, exploratory incision and curettement was made and a drain inserted. The tissues bled very freely and on the third day quite a severe hemorrhage occurred from the incision. Two hypodermics of coagulin given and ovarian substance, five grains, started.

November 25. Bleeding time nine minutes thirty seconds. Platelet and calcium studies not done. Corpus luteum five-grain enteric coated given three times a day in addition to whole ovary, also enteric coated.

December 1. Bleeding time four minutes thirty seconds.

December 3. Bleeding time three minutes. He was returned home with instructions to take five grains whole ovary daily.

1624 Franklin Street.

BEDSIDE MEDICINE FOR BEDSIDE DOCTORS

An Open Forum for brief discussions of the workaday problems of the bedside doctor. Suggestions of subjects for discussions invited.

ARTIFICIAL PNEUMOTHORAX

John W. Nevius, M. D. (1002 Wilshire Medical Building, Los Angeles).—"No more hopeful ray of sunshine has ever come to illumine the dark kingdoms of disease than that introduced into the path of the consumptive through the discovery of artificial pneumothorax." Anyone who has given this treatment a fair trial knows how true are these words of Riviere. There is scarcely a more astounding change seen in medical practice than that often seen in patients receiving this treatment. The results are not only astounding, they are frequently almost miraculous. In the writer's opinion, it is the greatest step forward that has ever been made in the treatment of pulmonary tuberculosis. That it is also valuable in other diseases of the lungs has been shown very clearly by Doctor Brown and Doctor Faulkner.

I know of nothing more spectacular and correspondingly gratifying than to see a patient who is extremely ill from tuberculosis, with high fever, rapid pulse, racking cough and marked weakness, change within a week (as they sometimes do after receiving this treatment) to become a patient with normal temperature, no cough and a feeling of enthusiastic well-being, and a renewed hope of recovery. This regained assurance is in itself a big help. There is perhaps no disease in which the patient's morale has a greater physical effect than in tuberculosis. Hopefulness has a real therapeutic value.

What a contrast this is to the old method, where a patient went through months of confinement in bed, with all the anxiety and terror, and often despair, which this disease inspires; with the worry about the expense of treatment, the loss of income, and the drain on the rest of the family (factors which often greatly retard the patient's progress); with the grief and worry on the part of the relatives; and finally, the economic loss caused by withdrawing the patient and often an attendant from their occupations.

What a difference it makes for the patient to be able to go back to work and be self-supporting instead of having to be a burden. For often, when a satisfactory collapse is obtained in an early case, the patient is able to go back to work in a few weeks. Indeed, some patients need to leave work for only the first two weeks. To obtain such striking results one should get the patient at the ideal time for collapse, that is, in the early stage before adhesions form.

Unfortunately we often wait too long before doing pneumothorax operations, and adhesions do form and hinder collapse. Naturally, in these cases the results are less spectacular, though they are usually good even then, but of course much more slowly obtained.

Many remarkable cures take place even in far advanced cases, sometimes even with extensive pathologic changes in the better lung. Even though the disease be too far advanced to obtain a cure, marked improvement and added months, or even years, of life may be obtained.

It is in these advanced patients that hemorrhage most frequently occurs. Here again, the miraculous results of pneumothorax are strikingly manifest. Cases in which every other remedy used for hemorrhage has failed, respond at once to pneumothorax when collapse can be obtained. Even with only partial collapse hemorrhage is often controlled.

While less spectacular, pneumothorax is no less valuable to society in those patients who are throwing off incalculable numbers of bacilli in their sputum. By collapsing the lung and checking this sputum a prolific source of infection is obliterated. That in itself is a great accomplishment. If every patient who has tuberculosis could be collapsed early and thus the human source of infection be eliminated, we would be far on our way toward the complete eradication of tuberculosis.

In the writer's opinion, it is a pity that so few tuberculous patients are being given the benefits of this marvelous therapeutic agent. There should be hundreds, nay thousands, where today there is one. Every case of pulmonary tuberculosis should be carefully considered as a possible candidate for this most promising method of treatment—artificial pneumothorax.

* * *

A. Lincoln Brown (490 Post Street, San Francisco).—Although the production of an artificial pneumothorax has probably found its most common therapeutic use in the treatment of pulmonary tuberculosis, it has also become a most valuable measure in thoracic surgery in general.

First, it may be used therapeutically in such conditions as pulmonary tuberculosis, bronchiectasis and lung abscess. Doctor Nevius has well outlined its value in tuberculosis. Its value in cases of bronchiectasis is at present a somewhat moot question. The consensus of opinion appears to be that it is of considerable value in early cases, especially in children, but that it is of little avail in the chronic well-established forms of this disease. A considerable percentage of lung abscess cases are amenable to treatment with artificial pneumothorax. In justice to the patient as well as to the procedure, these cases must be carefully chosen. Generally speaking, the cases in which benefit may be expected are rather early lesions (about one month old) in which compression of the abscess is possible both in regard to its location in the lung parenchyma, the elasticity of the abscess walls and the possibility of emptying the cavity of its contents by means of the compression.

Second, artificial pneumothorax finds another use in the control of pulmonary hemorrhage. Such hemorrhage may be either the result of pulmonary disease (*i. e.,* the erosion of vessels in pulmonary tuberculosis, abscess, bronchiectasis, or gangrene) or it may be brought on by direct trauma (for example, most commonly gunshot or stab wounds in the chest). Compression therapy is often a relatively simple but still markedly effective method for the control of hemorrhage in such cases.

Again, in the realm of diagnosis one finds a use for artificial pneumothorax. Thus a "diagnostic pneumothorax" may be induced for a variety of purposes extending from the simple question of determining the presence and extent of pleural adhesions to the better roentgenologic demonstration of intrathoracic neoplasms. Here one is frequently astounded by the different roentgen picture obtained and, consequently, a totally different impression may be gained after the pneumothorax has been induced. Thereby false opinions are corrected and true diagnosis obtained.

Perhaps it is worth while mentioning that on occasions artificial pneumothorax is employed not only alone, but also after such other compression therapy has been induced. Thus the combination of phrenic avulsion and simultaneous pneumothorax is often carried out. And we may continue an artificial pneumothorax after certain forms of thoracoplasty.

In a limited group of cases a "selective collapse" by means of artificial pneumothorax may be obtained. By "selective collapse" is meant the local compression of the lung in a desired area. This of course can only be accomplished by a most careful regulation of the intrapleural pressure in an area not fixed by adhesions and in which the pulmonary tissue is less resistant than the healthy neighboring lung.

Here, as in all branches of thoracic surgery, when the question of the induction in artificial pneumothorax arises, I believe most sincerely in the closest harmony between internist and the surgeon. By such coöperation, and only thus, can the full advantage of this relatively simple and valuable procedure be obtained. Their combined opinion is needed not only to determine whether or not artificial pneumothorax should be induced, but is of equal importance in deciding how great a compression is desired, how long it should be maintained, and when it may be released or when other measures are indicated.

William B. Faulkner, Jr., M. D. (University Hospital, San Francisco), and Edward C. Faulkner, M. D. (Saint Mary's Hospital, San Francisco).—Artificial pneumothorax, the introduction of air into the pleural cavity in the treatment of pulmonary tuberculosis, has proved its worth when the cases were carefully selected. But such is not the sole usefulness of pneumothorax; it can be used in the treatment of other pulmonary diseases, and is of especial value in the accurate diagnosis of intrathoracic conditions.

Since rational therapy depends on an understanding of the exact location and nature of the disease, we shall consider first the diagnostic value of pneumothorax and then its use in treatment. The usefulness of diagnostic pneumothorax rests on three factors, namely, the ability of the air in the pleural cavity to displace the lung and mediastinal structures; the changes in the position of the air following changes in the posture of the patient; and the effect of respiration upon the lung and mediastinum.

In patients with pulmonary tuberculosis, pulmonary abscesses or bronchiectasis, it is important to know in which cases pneumothorax should be employed as therapy. This decision is based in a large measure on the presence or absence of pleural adhesions, the site and extent of these adhesions, and their influence on the underlying lung lesion. Such information cannot always be obtained from physical signs or roentgen examination, but is to be had following the initial diagnostic pneumothorax. This indicates whether the patient is likely to be cured by conservative treatment, whether supplementary minor surgical measures are needed, or whether a major thoracic surgical procedure is to be chosen. By means of diagnostic pneumothorax, this information is obtained early enough in the course of the disease so that patients who have a chance of cure by conservative measures are not subjected to surgery, and the others for whom surgery is warranted are not carried along on conservative treatment until they are no longer good surgical risks.

The ability of the air to alter its position with changes in the posture of the patient is helpful in the study of empyemas and injuries of the diaphragm. In patients with empyema, we are able to determine the presence or absence of multiple pockets, the extent and location of each, the possibility of communications between these pockets, and the most desirable site for dependent adequate drainage. When the diaphragm is torn the air will find its way from the pleural into the peritoneal cavity.

Pneumothorax plays an important rôle in the accurate differential diagnosis of intrathoracic tumors. Those involving the pleura are not altered in position either by the air in the pleural cavity or by respiration, whereas lung tumors are displaced by the air. The direction of the displacement is dependent on the posture of the patient. When the lung is pushed away from the mediastinum, tumors of the latter can be localized readily. In addition, there is a respiratory shift of the mediastinum and mediastinal tumors toward the pneumothorax side on inspiration and in the opposite direction on expiration; but the tumor usually does not move upward or downward. We have had no case of diaphragmatic tumor in our series, but it seems almost certain that such a tumor could be diagnosed following the introduction of air into the pleural cavity. With the employment of the Trendelenburg position, air would collect in the region of the diaphragm, displace the lower lobe upward, and the tumor should stand out clearly.

The notoriously difficult problem of differentiating diseases in the region of the diaphragm is well appreciated; and it is at times impossible to say with certainty from the usual tests whether the involvement is above or below the diaphragm. In these cases diagnostic pneumothorax is occasionally of assistance. It permits a study of the diaphragm, pleura, and lower lobe. In two patients who were proved to have subphrenic abscesses the pneumothorax caused sharp, severe pain over the liver. This pain is significant in making the diagnosis.

Generally speaking, when intrathoracic surgery is contemplated it is important to know in advance concerning the extent of pleural adhesions and the amount of fixation of the mediastinum, because these factors determine not only the likelihood and danger of an open pneumothorax, but also the possibility of a mediastinal flutter. Diagnostic pneumothorax furnishes this information. Accordingly, the surgeon is enabled to select the proper anesthetic and the most suitable operation to avoid these difficulties. The same applies to operations upon the esophagus. Too often one selects empirically between the transpleural and the mediastinal approach without giving due attention to the factors determining which of these is technically possible and best suited to the individual patient. Whenever the air demonstrates an absence of pleural adhesions, the transpleural route is possible and the approach is easy; but with an obliterated pleural cavity, exposure would be difficult by the transpleural operation and in such instances the posterior mediastinal approach would seem desirable. This information can be had in advance of the operation and plans made for the proper surgical management of the patient under consideration.

Let us now turn our attention to the therapeutic use of pneumothorax. The effectiveness of this treatment is based on the compression of the lung, the approximation of the walls of the cavity, the evacuation of pus, the closure of open lesions, the control of pulmonary hemorrhages, and the allowance of local pulmonary rest. These measures aid in healing. Naturally, the treatment is most successful with patients in whom there are no pleural adhesions; but the results are at times very satisfactory even in patients with a few adhesions. Nothing can be expected from pneumothorax treatment if the pleural cavity is completely, or almost completely, obliterated by adhesions, and this will have been determined in advance by the diagnostic pneumothorax. If the adhesions in the upper portion of the thoracic cage and at the diaphragm prevent a satisfactory collapse, the phrenic nerve should be sectioned or avulsed. This will check the diaphragmatic movement and the unfavorable respiratory tug of the diaphragm upon the cavity. Pneumothorax may be continued then with good results. Attention should be directed also to the occasional patient who shows increase in fever and toxicity following the induction of the pneumothorax. When this cannot be accounted for by the presence of pleural fluid, we must consider the possibility of a kinked or otherwise obstructed bronchus. At times, relief can be obtained by withdrawing a portion of the air. These general principles apply to the treatment of pulmonary tuberculosis, pulmonary abscess, and bronchiectasis. In the latter two conditions, pneumothorax should be preceded by a bronchoscopic examination to rule out the possibility of an intrabronchial foreign body or tumor as the underlying cause of the condition. Likewise a bronchoscopic treatment is essential to establish the patency of the diseased bronchus. Drainage is essential, and if the bronchus which leads from the diseased area is not open the pus will not be evacuated but will spread toward the periphery and likely result in an empyema. We believe that many of the cases of empyema that have been reported following the pneumothorax treatment of pulmonary abscesses are attributable to the failure to establish adequate intrabronchial drainage. No empyemas have occurred in our series of pulmonary abscesses following diagnostic or therapeutic pneumothorax.

Treatment of Bone and Joint Tuberculosis.—According to Dale, the modern conception of the pathologic changes in bone and joint tuberculosis divides the treatment of the disease into two equally important parts. The lesion in the bone or joint is regarded as being secondary (with the exception of a few cases of direct infection) to a lesion elsewhere, usually in the lymph nodes, often hidden from view, as in the bracheobronchial or retroperitoneal groups. The spread to the bone or joint takes place by the blood stream, the tubercle bacilli reaching the circulation by way of the lymphatics. The patient must be viewed in a dual light. He is suffering from a general tuberculous infection and a localized tuberculous lesion. The latter is a local manifestation of the former. Treatment that aims at correcting the local condition, while disregarding the general infection, is necessarily unsound. The two must be treated simultaneously and with equal persistence. Even the complete eradication of the local focus, by excision or amputation, does not cure the patient. If treatment of this general condition is not continued, the persistence of the general infection may manifest itself in a further local outbreak.—*Edinburgh Medical Journal.*

Origin of Tumors.—According to Lockhart-Mummery, the essential difference between a normal cell and a tumor cell is one of behavior, not of apparent structure. The tumor cell grows faster than the normal cell. There are two kinds of reproduction—that which produces a new individual, and that which results in the replacement of injured or worn out cells in the tissues. All cells, both germ cells and somatic cells, breed true to their parent cells, and this breeding is controlled by the genes in their nuclei. Changes or mutations of the genes in the nuclei may occur, and, when they do, the daughter cells will always breed true to the mutation. Tumors are the result of a mutation of the genes controlling division of somatic cells.—*British Medical Journal.*

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Leaflet Regarding Rules of Publication. — California and Western Medicine has prepared a leaflet explaining its rules regarding publication. This leaflet gives suggestions on the preparation of manuscripts and of illustrations. It is suggested that contributors to this journal write to its office requesting a copy of this leaflet.

EDITORIALS*

A COUNTY UNIT PLAN OF MEDICAL CARE FOR CITIZENS WITH LOW BRACKET INCOMES—REPORT OF THE C. M. A. COMMITTEE ON PUBLIC RELATIONS

California Medical Association Council Accepts the Report and Recommendations of the Committee on Public Relations.—The fall meeting of the Council of the California Medical Association was held in Los Angeles on September 24. At that meeting a detailed report from the California Medical Association Committee on Public Relations was presented to the Council by Dr. John H. Graves, retiring chairman of the committee. The minutes of that meeting are printed in the California Medical Association column of this issue. (See item 38, page 357.) For the information of members of the California Medical Association, from the *Bulletin* of the Los Angeles County Medical Association is printed what is somewhat of a digest of certain matters contained in the report which was made to the Council. (See page 353.)

The Los Angeles County "Bulletin" Report Printed in This Issue.—An inspection of the *Bulletin* article above referred to suggests some interesting thoughts. In due time, when the details of the report of the Committee on Public Relations are printed, it is hoped that members of the county societies will give them most careful study. The members of that committee have given a tremendous amount of time and study to these problems in efforts to evolve something that would not only be efficient and practical but would also be acceptable to both the profession and the lay public.

* * *

The Large Attendance at the Los Angeles Meeting Augurs Well for the Future.—This subject cannot be left without commenting upon the very large number of members of the Los Angeles County Medical Association who inconvenienced themselves to be present at a 6 o'clock good fellowship dinner on October 12, which was followed by addresses that were listened to with rapt attention, even though the last talk was not finished until almost 11 o'clock. To be able to report an attendance of some seven hundred members of the society as being present at such a meeting may be taken as an indication of the real interest which members of the California Medical Association nowadays are taking in these medico-legal-economic problems. Even though there was no time for general discussion at the meeting, there was much exchange of opinion on the days succeeding, as physicians who were present later discussed the papers with colleagues whom they met in their hospital rounds. The large attendance and the keen attention to the speakers may be taken as a real index of increased interest in these problems. With such a spirit evident, the future may be confidently faced.

A SANTA BARBARA CITIZEN PROTESTS PAY PATIENTS IN COUNTY HOSPITAL

A News Dispatch Concerning the Santa Barbara County General Hospital.—Readers of this journal may have noted a news dispatch in the daily press of October 7, in which it was stated that a citizen of Santa Barbara County had made demand upon the district attorney of Santa Barbara County to take action to prevent the board of supervisors of that county from admitting citizens who are non-indigent to the Santa Barbara County General Hospital and its Santa Maria branch, for hospitalization and treatment. The editor of California and Western Medicine sent for copies of the Santa Barbara newspapers in order to get more details. In the Miscellany section of this issue of California and Western Medicine, the articles which appeared on October 6 in the Santa Barbara *Daily News* are reprinted. (See page 351.)

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* Editorials on subjects of scientific and clinical interest, contributed by members of the California Medical Association, are printed in the Editorial Comments column, which follows.

Influence on Lay Opinion of Medical Articles in the Lay Press.—In the medical and lay press during the last few years have appeared many and varied articles dealing with phases of medical economics. Much of such literature has been of a general nature and has dealt more with the causation of economic evils than with lucid and practical remedial measures whereby the evils complained of might be eliminated. These many expositions and discussions of medical economic problems have served a purpose, because in that way many physicians and medical groups and societies have been led to take an active interest in the problems which heretofore have been passed by as more or less unworthy of notice, because not dealing with medical subjects from the scientific standpoint.

We physicians are fairly well agreed that the tendency among medical practitioners is to develop individualistic rather than group consciousness. Therefore, when problems requiring group thought and coöperation come before us, it is necessary to carry on special campaigns in publicity. In that way a larger number of physicians are induced to study the issues under consideration.

* * *

Perhaps the Medical Profession Has Been Too Complacent.—Conscious of the large amount of altruistic and gratuitous professional service which has always been, and still is being rendered in public hospitals and in private practice, members of the medical profession have felt it unnecessary to notice or reply to the onslaughts of sectarians and of commercial propagandists. Such persons, for purposes known to themselves, have found it a profitable sport to malign and misrepresent the practitioners of regular or nonsectarian medicine. For years there has been a somewhat active propaganda about the "great medical trust" and about our national organization—the American Medical Association and its constituent state societies—to the effect that these are animated by narrow and sordid motives. Knowing the falsity of such assertions, and recognizing their sources of origin, it was only natural that nonsectarian physicians should refrain from dignifying with notice the slanders and the slanderers.

It is possible that in this a partial error may have been committed. We should have remembered that such tales, often repeated as they were in pseudo health columns in the daily press, could not do otherwise than mislead a goodly number of lay citizens into thinking that there must be considerable truth in the statements made, if no replies in contradiction were forthcoming. However, the medical profession in these matters was more or less in the unfortunate situation of receiving from some citizens blame if it did, and from others blame if it didn't. It is easy to understand why it chose to remain somewhat aloof, having faith that the righteousness of its cause and standards would justify nonsectarian medicine in the minds of all citizens who were really willing to inform themselves.

Non-Opposition May Have Permitted Hospital Evils to Grow.—Because of the reluctance which physicians and the organized medical profession have displayed in not attacking some of the more patent medico-legal evils, it is possible that herein may be found one of the reasons why, almost over night, some of these evils have assumed most unusual proportions. Take for example the points brought out in the article by Mr. John M. Peirce of the California Taxpayers Association which was printed in the September CALIFORNIA AND WESTERN MEDICINE (pages 204-205), in which was shown the very large proportion of California citizens who were receiving treatment in public county hospitals. The percentages given must have been a surprise to many physicians, and to lay citizens also. In our editorial comments thereon, the hope was expressed that all county medical societies in California would see fit to check and report on the conditions of their respective county hospitals. Several of the county units have already done this. If all county medical societies would do so, much good would result.

* * *

The Santa Barbara County General Hospital Situation Worthy of Attention.—The above is written as indirect comment on the Santa Barbara *Daily News* articles referred to above and which are reprinted in the Miscellany department of this journal.

The open letter written by Mr. William S. Long, a citizen of Santa Barbara, contains much valuable information. Every member of the California Medical Association should read it. Also should be noted the steps which Mr. Long has taken to bring about an investigation of the Santa Barbara County General Hospital. His requests seem a practical way of securing a hearing on the points which he makes. If Mr. Long is correct in his contention that it is an illegal expenditure of public funds to give hospitalization and treatment to non-indigent citizens, and if that point could be established through court decisions, it is possible that some members of the boards of supervisors in other counties of California who seem to be in favor of pay patients may change their opinions.

It has been a long time since the official journal of the California Medical Association has given so much space to newspaper comments as are covered by the articles above referred to. The editor makes no apology for this action, for he believes that a perusal of the articles will go far in making possible for many physicians a better understanding of certain California county hospital problems. Readers of CALIFORNIA AND WESTERN MEDICINE do themselves and their profession an injustice when they do not take the time to read Mr. Long's letter and the newspaper article dealing with the Santa Barbara County Hospital situation.

COMMENT ON THIS AND THAT

Alameda County Medical Society Pioneers in Revamping County Health Center Activities.—The "County Institutions Commission" of Alameda County has been commented upon in these pages. That Commission has rendered excellent service in removing the county hospital and allied activities from the field of civil politics. The board of supervisors of that county, through Ordinance No. 250 which was passed on August 23 last, placed the medical care of the "indigent sick" and "dependent poor" under the Alameda County Institutions Commission, which body in turn adopted definitions to indicate what classes of citizens in Alameda County came under either of the above classifications. As a result of the reorganization of the nine health centers maintained in Alameda County, a certain number of former patients of those health centers are no longer admissible for treatment in those institutions because of ineligibility to the "indigent sick" or "dependent poor" classes. The problem was therefore to find ways and means of giving medical care to these citizens who were not paupers, but whose incomes were quite limited. The Alameda County Medical Society stepped into the breach and made possible the proper care of this group of citizens. For details of the plan which the Alameda County Medical Society proposed, see articles by Doctors Black and Crosby in this issue, pages 330 and 354.

A concluding paragraph from a communication in which the plan was discussed by Dr. B. W. Black of Oakland, who is Medical Director of the Alameda County Institutions Commission, may be here quoted:

> "The physicians, the dentists, and the druggists are working harmoniously with Alameda County in joint efforts to solve this problem. As it nears solution, the plan presents the answer to many of the difficulties which now beset the practice of medicine and the county hospitals and clinics filled to capacity with patients unable to pay regular fees" . . . . .

From the above it may be noted that the three professions which have definite relationships to healing art practice, are here working hand in hand for the best interests of the public health and of their respective groups.

Which is as it should be.

* * *

University Student Health Services.—Publication No. 19 of the Committee on Costs of Medical Care has as its title "University Student Health Services." Four state universities—Michigan, Minnesota, California and Oregon State Agricultural College—are used as the basis for the study. The health services at Yale and Cornell were also surveyed. These six institutions give health services to a total of about 40,000 students. Twelve pages of the volume are allocated to a consideration of the health services of the University of California. The costs for the health services in these six institutions of higher learning range from $10 to $34 a college year. Readers of this journal may be interested in the following excerpt:

> "Important facts revealed by the study of the six university student health services include the following:
>
> "1. Per capita costs for 250 days of operation in the six universities studied range from less than $10 at the Oregon State Agricultural College to approximately $34 at Yale University. Fees paid by the students ranged from $9 a school year to $20.
>
> "2. Students' fees entitled them to receive widely different types of service, ranging from a preliminary medical examination on entrance, supplemented by counsel and advice by a general practitioner in cases of ambulatory illness, to thorough periodic examinations, correction of physical defects, hospitalization, and surgery.
>
> "3. Because of emphasis upon health examinations, the directors and personnel of these services were in a position to concentrate their efforts upon preventive medicine and the early discovery of disease and defects rather than upon remedial measures required to relieve advanced pathological conditions.
>
> "4. Student health services provided for physicians on the staff the best of modern diagnostic and therapeutic facilities."

* * *

Uniform Narcotic Laws.—A Universal Service press dispatch of September 9 refers to a Washington, D. C., report on some 600 physicians in the United States who are narcotic addicts. We quote a brief excerpt:

> "In a drive to rid the medical profession of unscrupulous practitioners, Harry J. Anslinger, federal narcotics commissioner, has reported 672 cases of state medical boards for prosecution. The result was negligible."

The inference of the press dispatch was that medical and pharmacy boards were negligent in not depriving such narcotic addicts of licenses to practice.

Those who are familiar with medical practice acts and the difficulties which state medical boards encounter with the courts—when state board trials to deprive physicians of licenses for offenses against medical practice acts are not punctiliously observant of legal procedures—do not wonder that only a limited number of offenders are deprived of their licenses. It is hoped that the proposed standard narcotic law for states, which will be included in the report of the National Conference of Commissioners on Uniform State Laws, and which will shortly come off the press, will be worded so that it will commend itself to the different commonwealths and be generally adopted. It may not be out of place to consider such a redraft for possible submission to the California Legislature which will convene on January 3, 1933.

* * *

A Naturopathic State Examining Board for California?—The complexion of the next California legislature will probably be known by the time this issue of California and Western Medicine is placed in the mails. In the editor's opinion it would not be amiss if all members of the California Medical Association who have personal acquaintance with successful legislative candidates would write congratulations to such friends. No one can foretell what may take place in a legislative session. The greater the number of kindly contacts maintained by California Medical Association members with legislators, the more assurance that in the defense of sound public health standards we will have supporters in the legislative halls. Let no one think that the coming session will not produce its usual quota of bills designed to lower public health and professional standards. In all probability a number of new groups of sectarians will seek to establish themselves with state recognition, by means of special sectarian practice acts and examining boards. An excerpt from a letter bearing on a proposed law that would recognize the expression of cultist medicine known as "naturopathy" is printed below and is full of significance as to future possibilities. It reads:

> "Hearing from reliable authority that (name), one of the active proponents of the naturopathic bill at the last legislature, is in Southern California interesting supporters in the introduction of the same bill at the 1933 legislature, thought you would be interested in the enclosed copy of a letter addressed to the New Jersey State Board of Medical Examiners inquiring about the 'First National University of Naturopathy and Allied Sciences, Inc.,' the 'genealogy' of which is most complicated." . . .

* * *

Research Worker Ill from Typhus.—In the last three issues of CALIFORNIA AND WESTERN MEDICINE was printed a series of letters from the late Joseph W. Cook, who died from typhus fever in Persia. The tragedy of this former member of the California Medical Association, who was so willing to risk his life in service to almost forgotten fellow humans in a far-away land, was recalled by a recent news dispatch which stated that Dr. R. E. Dyer of the National Institute of Health of the United States was seriously ill from typhus, contracted in his work of trying to find a means of overcoming that much dreaded disease. The medical profession may be proud of sons who, as they pursue their work of service, so willingly face the dangers of death. For those who missed the dispatch at the time, it is here reproduced.

Victim of Typhus Lets Fleas Bite Him to Aid Science

By International News Service

Washington, October 7.—Dr. R. E. Dyer of the National Institute of Health remained seriously ill of endemic typhus fever today while fleas were exposed to the blood of the stricken research worker.

Doctor Dyer, it is believed by officials of the United States Health Service, became infected from a flea bite while conducting experiments with forms of European typhus or "jail fever." The scientist's recovery is confidently predicted.

The fleas that now feed on Doctor Dyer will next be allowed to bite guinea pigs. If the animals develop typhus, the experiment will prove that fleas can transmit the disease to humans.

* * *

Patents on Therapeutic Preparations.—It is generally known that some of the net proceeds accruing from the production of insulin go to one of the medical schools of Canada. It has been stated that if Professor Babcock, who invented a milk separator, had taken out a patent on his invention, the wide use of that separator would have meant a large annual income to the university with which he was connected. In recent years a number of research investigators have seen fit to take out patents on their discoveries; one, to insure the integrity and standards of their special products; and two, to permit some of the net proceeds to go to the support of research and study work. Not many years ago such a course of action would have been severely criticized. A recent medical discovery for which a patent has been applied is mentioned in the dispatch below. The preparation will no doubt have considerable therapeutic interest to many physicians. News dispatch follows:

NEW CURB FOR ANEMIA PATENTED

Wisconsin Professor Finds Copper Aid to Iron as a Disease Remedy

Madison (Wis.), Oct. 20. (AP)—A broad general patent has been granted to Prof. Edwin B. Hart of the University of Wisconsin department of agricultural chemistry, on the discovery that copper, when added to iron in proper proportions, results in a compound which prevents and helps cure certain forms of anemia. The patent has been assigned to the Wisconsin Alumni Research Foundation.

This was announced by Dr. Harry L. Russell of the Foundation, who said that Professor Hart had made his discovery in 1928 after three years of research. Application for patents have been pending since that time.

Doctor Russell said it had been found that the administration of copper and iron together increased the hemoglobin content in the blood from 64 to 84 per cent after four weeks in one hundred cases of secondary anemia in children who were patients in a New York hospital.

Iron, he added, has long been accepted as beneficial in some cases of anemia, but that Professor Hart had learned that copper is required as a catalytic agent.

California State Supreme Court Decision Regarding Practice of Dentistry by a Corporation.—An important decision was recently handed down by the highest court in California, in which the denial of a corporation to practice a healing art profession was affirmed. Because of its medicolegal significance and because it is desirable that the opinion should be accessible in the medical literature, the editor is printing a substantial portion of this opinion. (See this issue, page 349.)

The court's opinion, in which all justices but one concurred, should be read by physicians who wish to acquaint themselves with the legal substratum underlying police laws such as medical and dental practice acts. For all intents and purposes, members of the dental profession are physicians specializing in diseases of the oral cavity. It is regrettable that when the practice of dentistry took on its present-day scientific form, that this group of professional colleagues should not have been made a more integral part of organized medicine. However, as time goes on and new studies constantly reveal how closely related are oral hygiene and diseases to other malfunctions and malstructures of the human body, members of the professions of medicine and dentistry are being brought more and more together.

The organized dental profession has a code of ethics very much like that of medicine. It is true that there are no dental cults such as are found in medicine, but the advertising evils are perhaps more pronounced, and the danger from overambitious nonprofessional technical assistants also probably are greater. The digest of this Supreme Court decision makes excellent reading, especially in conjunction with previous articles in CALIFORNIA AND WESTERN MEDICINE, such as Judge Blake's decision in the Superior Court at Los Angeles in the Medical Service Corporation case. (See CALIFORNIA AND WESTERN MEDICINE of November, 1930, page 846, and May, 1932, page 353.)

* * *

Psittacosis.—The September CALIFORNIA AND WESTERN MEDICINE (page 194) contained a report of a case of psittacosis in San Luis Obispo County. A number of deaths from that infection have taken place in California. The disease has a high mortality. Perhaps on that account, and because so much is still to be learned concerning its capacity to spread, the United States Public Health Service has seen proper to request the President of the United States to place an embargo on the importation of birds of the parrot family. The California State Board of Health has issued an order forbidding the transportation of parrots from one aviary to another. In other words, California has placed a nominal quarantine on birds of the parrot family, leaving to local health officers the responsibility to see that the ruling is observed. Psittacosis is a somewhat new disease, so far as the American public is concerned. It is understandable, therefore, to read that pet dealer associations have passed resolutions protesting against the state health board orders. In the Miscellany column of the current number of this journal may be found copies of President Hoover's order and other information. (See page 355.)

Soviet Russia's Public Health in the Second Five-Year Plan.—The first five-year plan will be finished for the most part in 1932, a year earlier than originally proposed. The government of the Soviet Union is working out a scheme for the second five-year plan of public economics, industry, and culture. Its principal aim is the formation of a socialistic society without classes in the Union of Socialist Soviet Republics. On the basis of the general increase of public incomes that are wholly used for the needs of the working masses, a sharp rise of their prosperity must be obtained. A complex scheme of health direction has been adopted, transforming labor into a source of physical and creative energy. It corresponds to measures used for progress in the allied field of public economics—communal housing, public nutrition, general education, and changing of the mode of living according to socialistic principles. Thus a social foundation for the future society without class distinctions is accomplished.

The following points are of a great significance in the hygienic supervision of labor: mechanization and electrification of industry on the basis of technical reconstruction, and the wide use of means of production in order to protect the health and strength of workers. Living conditions in cities will be made healthful with the view of turning the latter into mighty labor collectives. These healthful conditions include extension of water supplies and conduits, paving of streets and roads, prevention of noise and street accidents, increasing the number of trees and the amount of verdure in towns and industrial plants, and the abolishment of prostitution in all its varieties. In the socialistic town there will be no place for the development of rheumatism, tuberculosis, venereal diseases or epidemics. The public education of children from the earliest age and the augmentation of living space will help to develop a healthy generation. The difference between the town and the country will disappear. Agricultural labor will improve the health of peasants.

The Soviet farms, machine tractor stations and plants will receive the services of health centers, which will not only give medical and prophylactic aid but also superintend technological processes, creating healthful conditions for labor. Hospital assistance, including ambulances, consultations and polyclinics, as a means for preventing morbidity and invalidity, will embrace all the industrial proletariat and peasants.

The second five-year plan of public health must completely abolish industrial accidents. There will be an end to most of the so-called social diseases—typhus fever, typhoid, remittent typhoid, variola, trachoma, malaria, scabies, favus and, partially, syphilis. A barrier will be placed against the dissemination of tuberculosis. Children's diseases will decrease. More nurseries for all children will be constructed. Women will stay before and after delivery in special houses for the mother and child. In the schools, athletics and gymnastics will play a large part in preparing a healthy generation. The leisure hours of industrial workers and peasants must not be spent in idleness and boredom but in conditions leading to further improvement of their mental and physical strength. The correct organization of leisure time in plants and in homes has great significance in raising the efficiency of labor. Out of town camps and parks for culture and rest, with active forms of amusement, must be widely spread. Travel, as a most effective dynamic form of rest, giving to the worker a knowledge of his own country, will take the place of houses of rest existing at present. Physical culture, sports and athletics will be encouraged.

The medical staff will consist of the physician and the physician's assistant. The latter will help in the prompt solution of problems of organization, and the physicians will be able to pass over to their assistants various small procedures which take at present much of the physician's time. The medical staff must be well acquainted with the technique and organization of the industries in the region where they work. Workers in their everyday activity will help to realize large health measures that are carried out now only by the medical staff.

An all-union conference on the questions of planning public health in the second five-year plan is now being held in Moscow. A detailed report of it will be given later.—*Journal of the American Medical Association,* Vol. 99, No. 4.

A Code for Professional Men.—The Toledo Academy of Medicine Bulletin for November carried the following paragraph, attributed to Hon. Charles E. Dawes: "If you work in a profession, in heaven's name work for it. If you live by a profession, live for it. Help advance your co-worker. Respect the great power that protects you, that surrounds you with the advantages of organization, and that makes it possible for you to achieve results. Speak well for it. Stand for it. Stand for its professional supremacy. If you must obstruct or decry those who strive to help, why—quit the profession. But as long as you are a part of a profession, do not belittle it. If you do, you are loosening the tendrils that hold you to it, and with the first high wind that comes along, you will be uprooted and blown away and probably you will never know why."

EDITORIAL COMMENT

This department of California and Western Medicine presents editorial comment by contributing members on items of medical progress, science and practice, and on topics from recent medical books or journals. An invitation is extended to every member of the California and Nevada Medical Associations to submit brief editorial discussions suitable for publication in this department. No presentation should be over five hundred words in length.

The Artificial Heart in the Study of the Circulatory Effects of Drugs.—The technical difficulties of quantitative investigations on the mechanism of drug action can only be appreciated by those who have had actual laboratory experience in these fields. The study of the action of drugs on the circulation is made difficult by the independent and inconstant changes which may occur in cardiac muscle on the one hand, and in vascular tissue on the other. Tainter at Stanford University Medical School has published,[1] in the journal he helps to edit, an important technical contribution in this difficult field made possible by an adaptation of the artificial heart first introduced by O. S. Gibbs.

The artificial heart as designed by Tainter works in a constant and determinable manner so that its actual effect on the peripheral circulation is known and under control at all times. With this device it is possible to prove beyond doubt that certain sympathomimetic amines such as epinephrin, tyramin, and ephedrin cause certain pressor responses independently of the heart and that therefore they act through peripheral arterial constriction. It is also possible to demonstrate beyond doubt the extracardiac origin of the effects of digitalis and strophanthin in lowering venous pressure and increasing arterial pressure. The decrease in venous return is due to pooling of the blood in the portal system as a result of hepatic vein constriction.

In spite of the difficulties of making and operating the Gibbs artificial heart successfully, Tainter's work has shown its value in affording a satisfactory means of studying and correlating changes in the peripheral circulation as a result of the action of drugs, and of separating such changes from the cardiac responses of the drugs.

Department of Pharmacology, University of California.

C. D. Leake,
San Francisco.

Mussels and Clams: A Seasonal Quarantine—Bicarbonate of Soda as a Factor in the Prevention of Mussel Poisoning.*—It should be more generally known that the usual methods of preparing mussels for eating by means of steaming, cooking, baking, etc., does not lessen the danger of poisoning. As a matter of fact, the water in which shellfish may be cooked takes up the major part of the poison. If the broth is not discarded the danger of poisoning is increased because of the quicker resorption of the liquid. The popular belief that cooking lessens the danger of poisoning, and also the belief that the blackening of a silver coin can be used as an indicator for the presence of poison, are both mistaken beliefs. Furthermore, the treatment of shellfish poisoning with alcohol is very dangerous because the poison is mose readily soluble in alcohol.

Recent experiments have shown that there is a rather simple method by which mussels may be made safer to eat. The addition of one-quarter ounce (one tablespoon) of bicarbonate of soda to each quart of water in which the shellfish are cooked destroys 85 per cent of the poison when the cooking process is continued for twenty to thirty minutes. The use of this procedure causes the major part of the poison to lose its dangerous effect. This experiment is in agreement with results that were secured by Salkowski when an outbreak of mussel poisoning occurred in Wilhelmshaven, Germany, in 1885. That the same type of poison is involved in the California outbreaks as was involved in the Wilhelmshaven outbreak has not been established up to the present time, however. Cooking shellfish with bicarbonate of soda does not grant a complete protection from poisoning (the coagulating protein substances retain about 15 per cent of the poison in the tissue which is only delivered by the digestion in the stomach), but it provides partial protection.

The results of this experiment, however, give rise to the question as to whether the quarantine on shellfish cannot be limited to a short period of time. Investigations carried on during the last five years show that a small amount of poison can be found in mussels or clams during almost every month of the year, but not in quantities which are harmful to human beings under ordinary circumstances. The amount of the poison increases during the summer months and reaches a maximum which in some years may be as early as June or as late as September. It should become a general custom to cook mussels with the addition of bicarbonate of soda, although there is a possibility that during highly toxic periods the use of bicarbonate of soda might not provide sufficient protection. A quarantine measure might then be restricted to cover only the periods of extreme toxicity, the determination of which could be made by laboratory tests.

Because of the fact that the occurrence of the poison in clams does not run strictly parallel to its occurrence in mussels it is more difficult to convince most people that clams are often just as toxic as mussels. In both cases the poison is confined almost entirely to the intestines of the bivalve, and since these organs are larger in clams they are usually discarded. For that reason poisonings due to clams have occurred less frequently. Some individuals use the whole clam in making chowder. Under such conditions the danger is just as great as is that in poisonous mussels. If the intestines were always removed from clams the danger of contracting poisoning from this shellfish would be lessened greatly.

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[1] Tainter, M. L.: Use of Gibbs' Artificial Heart in Study of Circulatory Phenomena, Arch. Internat. de Pharmacodyn. et de Therapie, 42:186, 1932.

* Part one of this article was printed in the October California and Western Medicine. (See page 263.)

In spite of intensive investigations, made from every possible angle, knowledge relative to the causes of this temporary appearance of a strong poison in Pacific Coast shellfish is still incomplete. It is certain that mussels and clams are valuable foods, especially to people who live along the coast. There should be no fear in the eating of these shellfish, provided that the general public is well informed relative to certain dangers connected with these shellfish at certain seasons of the year. A more widespread campaign of education should be undertaken not only in newspapers but by means of outdoor signs, pamphlets, cook books, public school instruction, and by means of other avenues of publicity and information. Everyone who uses shellfish should know how to prepare them properly for eating; they should use bicarbonate of soda, as prescribed, in cooking mussels; and they should always discard the intestines and clean clams before eating them. Furthermore, they should always respect a quarantine measure which may be established, with full assurance that it is a necessity for the protection of human life. If these procedures were followed consistently the danger of shellfish poisonings on the Pacific Coast could be greatly reduced, if not entirely eliminated.

Hooper Foundation for Medical Research.

H. Muller, Ph.D.,
San Francisco.

Don'ts in Hemorrhoidal Injections.—With the present trend on the part of many physicians to treat hemorrhoids by the injection method, a few salient don'ts are set down with the hope that they may prove a help in avoiding trouble which some are encountering.

1. Don't inject hemorrhoids without being absolutely positive as to the entire anorectal pathology; a cancer or some other serious trouble may be present as the cause or a concomitant cause of the symptoms about to be treated as hemorrhoids.

2. Don't use solutions for hemorrhoids which are used for sclerosing varicose veins; they will cause trouble. Conversely, solutions used for hemorrhoids are not amenable for varicose veins.

3. Don't use mineral oil as a diluent for phenol; it will likely cause tumor masses. Vegetable or animal oils should be used.

4. Don't inject the usual amount of any solution the first time; the patient may have an idiosyncrasy for that particular drug.

5. Don't inject external hemorrhoids; they are not amenable to this form of treatment.

6. Don't inject the so-called sentinel piles or skin tags; they must be surgically removed.

7. Don't inject external thrombosed hemorrhoids; they must be opened and the clot evacuated.

8. Don't inject hypertrophied papillae mistaken for hemorrhoids; surgical removal is indicated here.

9. Don't, to sum up the preceding four points, inject anything below the mucocutaneous or anorectal line; it will give pain and bring no results.

10. Don't inject edematous prolapsing hemorrhoids; a greater prolapse will be brought about. An injection high up, with a reduction of the mass, may bring results.

11. Don't inject too superficially; it may cause sloughing.

12. Don't inject too deeply; the hemorrhoidal plexus is in the submucosa; injection deeper than this is largely lost.

13. Don't reinject the same location too soon; it takes three to four weeks for the proper amount of a rightly placed solution to do its work.

14. Don't reinject at any time before palpating the region. If it is hard or indurated, wait until this has entirely subsided; it may not then need more.

15. Don't transfix your area of injection, a thing easily done; your solution is thus lost and your labor of no avail.

16. Don't inject if the solution enters only under marked pressure; it is an indication that you are in the wrong place, and will give trouble.

17. Don't continue with an injection that is giving marked pain; it is nature's warning of danger ahead.

18. Don't, by any means, reinject if the speculum shows that a slough has occurred, a condition that rarely if ever occurs with the proper technique.

19. Don't stop treatment until a complete cure has been brought about or a return will result. On the other hand, do not continue injections after sclerosis has been secured or a new trouble may arise.

519 Hillstreet Building.

A. H. Weitkamp,
Los Angeles, Calif.

Syphilis of Eighth Nerve.—According to Garrott, syphilis of the eighth nerve occurs in two chief forms, neurolabyrinthitis syphilitica, or early auditory syphilis, and labyrinthitis syphilitica tarda, or late auditory syphilis. Neurolabyrinthitis syphilitica responds favorably to treatment in the majority of cases; labyrinthitis syphilitica tarda does not always respond as favorably in as many cases, but many of the cases are checked or stopped in their progress. The author believes that syphilis of the eighth nerve or its branches is more common than the diagnostic records of most otologists would indicate. If diminished bone conduction is just ground for suspicion of syphilis of the eighth nerve and its branches, and if it is an early manifestation of nervous system syphilis, otologists should be more alert and watch for it more carefully. Though one may not relieve all the auditory symptoms, one is obliged to recognize the systemic nature of the infection and coöperate with competent serologists in the treatment of it. By the same token, the serologist and the general practitioner should remember the possibility of eighth nerve involvement and consult the otologist. And he should attempt to outline his treatment according to the degree of involvement as determined by the otologist.—*Tennessee State Medical Association Journal.*

C. M. A. DEPARTMENT OF PUBLIC RELATIONS

An open forum for progress notes on the department's activities, and for brief discussions on medical economics. Correspondence and suggestions invited. Address Walter M. Dickie, Room 2039, Four Fifty Sutter Street, San Francisco. This column is conducted by the Director of the Department.

MEDICAL SERVICE STUDY OF CALIFORNIA MEDICAL ASSOCIATION

The Council of the California Medical Association at its meeting held in Los Angeles, September 24, considered the report of the Committee on Public Relations, as presented by the chairman, whereby component county medical societies, by two-thirds majority of its membership, might adopt one of four suggested types of medical and hospital service on a periodic payment plan.

The following principles were adopted which must be embodied in any approved plan undertaken by local societies:

1. The plan shall include an insurance principle whereby the beneficiary pays at periodic intervals specified sums to be used for defraying the expense of his illness.

2. Medical or hospital service shall be considered separately from indemnity for disability. The service in the beginning shall be limited to professional attendance only.

3. The sole control of any organization for medical service must be limited to members of the profession.

4. Compensation for professional services—medical or surgical—shall be on the unit basis.

5. Professional service under any plan adopted shall be limited to the membership of a component county medical society or groups thereof endorsed through its official organization by two-thirds majority of its members. No plan shall be adopted or put into effect except with the approval and under the direction of the Department of Public Relations.

6. The beneficiary member shall have the right to the selection of any physician or surgeon from the entire membership of the county society or group thereof that participates in the plan.

In addition to the six principles enumerated above, the Council adopted a seventh principle as follows:

7. No member of any county medical society, participating in an approved medical service plan, shall be entitled to any compensation for medical or surgical service rendered by him to any beneficiary member unless rendered by him personally and directly and without the intervention of any doctor of medicine as an associate, assistant, or otherwise unless the service of more than one doctor of medicine is necessary or advisable in the opinion of the professional administrator in charge.

The Council, on recommendation of the Committee on Public Relations, approved the use of the following types of medical service by component county medical societies or portions thereof:

(*a*) Medical and surgical service only by members of a component county medical society through a medical service firm substantially as set forth in the reports and forms prepared by the Association's legal counsel.

(*b*) Hospital service only through a membership corporation controlled by members of component county medical societies substantially according to the above forms.

(*c*) Medical and surgical service and hospital service by *a* and *b* jointly.

(*d*) Medical and surgical service by such medical service firm and hospital service by an organization controlled and operated by hospitals.

Any component county medical society or portion thereof that has received the approval of the local society as above stated may render service by complying with the principles as laid down by the Council. Forms (some of which have been tentatively formulated) will be prepared by the legal counsel of the Association, through which any component county medical society may put into operation any plan suggested. Any proposed plan of organization adopted by a component county medical society must be approved by the California Medical Association, acting through the Department of Public Relations.

MEDICAL SERVICE PLAN

Medical and surgical service will be rendered by means of a copartnership composed of a fixed number of general partners selected by the component county medical society and the remaining members of the county medical society participating in the plan will act as assistants to or associates of the general partners. All services will be rendered on a unit basis. A tentative draft of copartnership agreement and contract for medical and surgical service has been prepared.

The terms of this contract will prescribe and determine the injuries and illnesses covered, extent of service, etc. All Workmen's Compensation cases are excluded.

HOSPITAL SERVICE PLAN CONTROLLED BY COUNTY SOCIETY

Hospital service will be rendered by a corporation, incorporated under the laws of the State of California, for the purpose of furnishing and supplying beneficiary members with hospital and nursing service on a monthly payment plan through existing approved private hospitals.

The corporation will consist of administrative and beneficiary members. Only members of the county medical society in good standing are eligible for administrative membership. Voting and other rights and privileges of each administrative member will be equal to that of every other administrative member and he will be entitled to vote on all matters. The administrative members will elect from their own members a board of directors. The board of directors shall appoint a medical director. Thus the conduct and management of the hospital corporation will be placed solely in the hands of the medical profession.

Beneficiary members will be those who meet the necessary qualifications, namely, that they shall have lived in the county ——— months and shall have been engaged in a gainful occupation for a certain period of time. Their net income from such occupation shall not exceed a given amount, namely, $2000 a year. They shall have passed a physical examination by a designated administrative member. Beneficiary members will be liable for the payment of monthly dues in such amount, form and manner as may be designated in the by-laws of the corporation.

Certificate of beneficiary membership is merely a form of contract which the individual receives who passes a physical examination and becomes entitled to hospitalization, namely, the operating room, ward bed, board and regular nursing service on the payment of the stipulated monthly dues to the ——— County Mutual hospitals. Certain restrictions are made in the issuing of a certificate of membership, and the service will not include ambulance, private room, private nurse, physiotherapy, laboratory tests or service, x-rays or dental x-rays, drugs, medicines, dressings, appliances or bandages. The length and extent of hospital service must be approved by the medical director and in no case will exceed twelve weeks for any one illness or accident. ——— County Mutual hospitals will not be required to furnish hospital service for such accidents and sicknesses as are commonly excluded in similar health policies. All Workmen's Compensation cases are excluded.

The ——— County Mutual hospitals will have authority to provide and set up the necessary machinery to furnish the beneficiary member with approved hospital service, and to contract for said hospitalization with existing approved hospitals and to establish an administrative office for accepting applications from beneficiary members, receipts for monthly payments, actuarial and statistical departments, credit department, etc.

No plan of organization for hospital service controlled by hospitals on a periodic payment plan has as yet been projected, but the committee is now at work on such a plan.

Through the action of the Council of the California Medical Association, in approving certain fundamental principles, the component county medical societies, if they so desire, may formulate plans for giving one of the four types of service. The tentative plans of organization and organization forms and the assistance of the Department of Public Relations are available to the officers of any component county society that may wish to study or inaugurate such service.

ALAMEDA COUNTY INSTITUTIONS COMMISSION TAKES FULL CHARGE OF ALL INDIGENT SICK*

By B. W. Black, M. D.
Oakland

On August 23, 1932, the Board of Supervisors of Alameda County placed the entire responsibility for the medical care and dental care of all indigents under the County Institutions Commission and under the immediate executive administrative direction of the county medical director. Previous to this time the outrelief covering the care of indigents had been handled through private organizations or corporations. These private organizations had operated health centers in various parts of Alameda County and in a large measure the money for their maintenance and support had been supplied from taxes by appropriation by the Board of Supervisors.

HEALTH CENTERS CARE ONLY FOR INDIGENT SICK

Health Centers have been established in Berkeley, Oakland, Alameda, San Leandro, Hayward, Centerville, Livermore, Pleasanton, and at the Children's Hospital. These health centers in addition to carrying on the work of indigency have also carried on certain other public health activities, a necessary service for the community but beyond the demands made for the relief of indigents.

SUPERVISORS ADOPT ORDINANCE

The ordinance adopted requires that the expenditure of county funds shall apply only to the care and treatment of "indigent sick" and "dependent poor," and on this basis the county has taken over the operation of the clinics as out-patient departments of the county hospitals and have adopted as a guide for the relief of the "indigent sick" and "dependent poor" the following regulations governing indigency:

Ordinance No. 250, passed on August 23, 1932, by the Board of Supervisors of Alameda County places all medical care of the "indigent sick" and "dependent poor" under the County Institutions Commission, these being the only persons for which the county offers free medical care.

DEFINITION OF "INDIGENT SICK" AND "DEPENDENT POOR"

The Institutions Commission has adopted the following definition for the terms "indigent sick" and "dependent poor":†

> Such persons must be without sufficient resources to pay for private medical care; their responsible relatives must be without such resources; and by paying for private care these persons or their relatives would be deprived of the necessities of life. The term "responsible relatives" is used as defined in the Pauper Act of the State of California.
>
> Ability to pay for private care would be determined by the illness which the patient has at the time of his application at the clinic. Those eligible for clinic care include sick persons of the following types:
>
> 1. The "dependent poor," with no income whatever, and persons who are not dependent, but who have only sufficient income for the bare necessities of life.
>
> 2. Persons with a small margin above the necessities of life. This margin would be sufficient to provide private medical care for some types of illness, and insufficient for others. A family might be able to provide medical care for one member with a minor illness, and be eligible for clinic care for another member whose treatment was prolonged and expensive. Patients in this group would be expected to purchase drugs, appliances, etc., privately whenever possible.

The ownership of luxuries and unnecessary articles or equipment would render a person ineligible if the market cash value of such things were sufficient to pay for private care.

If discontinuance of payments on radio, automobiles, or other luxuries would release money for private care, the patient would also be considered ineligible.

It will be the policy of the responsible clinic operated in the health centers to assume responsibility for certain necessary social service which may arise when patients are found ineligible.

Workers should have available information in order that they may recommend to ineligible patients methods of solving their problems independent of care for which the county has been asked to provide. Patients should be advised as to hospitals that will care for patients based on the ability of the patient to pay; a list of physicians should be available who will care for such patients at minimal rates. The necessary procedure should be in the minds of workers to permit the commencement of deportation procedure or the transfer of cases to other counties when other counties must assume responsibility and also the methods of contacting other governmental agencies when such patients may be entitled to care under such jurisdiction.

WORK OF COUNTY PHYSICIANS

County physicians will serve indigent patients in their homes when calls are placed with the physician by recognized welfare agencies and clinics operated in health centers. The county medical society will supply to the medical director lists of private physicians who will make home calls and charge the patient according to his ability to pay. Families or patients who are unknown as to the determination of eligibility will be referred to private physicians in practice. If it is found that these private physicians are unable to continue the treatment required because of the inability of the patient to pay, on their recommendation the responsible worker in the clinic will arrange for care such as may be necessary, by the county physician, care at the clinic, or care in the county hospitals. The private physician's statement that the patient cannot pay will serve as a basis for investigation as to whether the patient should be handled at the expense of the county. Only known charity cases who are definitely indigent will be referred to county physicians for original calls.

For many years Alameda County has supplied certain home care by physicians designated county physicians who have served the patients in their homes on a fee basis and who were responsible directly to the supervisor in the district that he served. In connection with this change these county physicians have been made regular county employees and a salary covering part-time service is now being paid to them.

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* See, also, an article on this subject by Dr. Daniel Crosby of Oakland, which is printed in the Miscellany department of this issue of California and Western Medicine, page 354.

* From the department of the Medical Director of the Alameda County Institutions Commission.

† The March 1931 issue of California and Western Medicine, page 219, discusses inclusions coming under the Pauper Act of California.

Their calls, however, are to be confined to indigent cases and they are attached to the office of the medical director for service covering the demands of indigency throughout the county.

It has been undoubtedly true that many families have had the services of county doctors without the showing of indigency and numerous calls have been made to families where, had a more adequate control been exercised, the family could have paid the private physician for the care of such cases.

RESOLUTION OF ALAMEDA COUNTY MEDICAL ASSOCIATION

With this new reorganization in Alameda County there remains a class of patients formerly treated at the health centers and by county physicians who are not eligible to this care under the terms of indigency as defined in this communication. The County Medical Association, through its Executive Council, at a recent meeting adopted the following resolution:

Whereas, It has come to the attention of the Council of the Alameda County Medical Association that certain changes have taken place in connection with the work performed by the county doctors, its county physicians, and the consideration that they have given to "indigent sick" and "dependent poor"; and

Whereas, Public Health centers have, up to this time, cared for certain patients for whom certain fees have been taken, and who appear to be not eligible for care at the expense of the public, under the Indigency Act, of the State of California; and

Whereas, The county profession realizes the importance of maintaining a service for patients that are not able to pay a full fee,

Therefore, it appears to be necessary to establish a plan whereby certain patients formerly cared for at health centers, who do not technically fall under the term indigency, and at the same time require attention at the hands of reputable physicians, and whose care should be assumed at a price within the ability of the patient to pay; therefore be it

Resolved, That the Alameda County Medical Association agrees to establish a list of physicians who will volunteer to accept calls for such classes of patients and to render service when called in coöperation with the established official county agencies and centralized social service as established in Alameda County and according to such additional plans as may be adopted.

ACTION OF ALAMEDA COUNTY SOCIETY

On the basis of this resolution the county society has asked for physicians to volunteer to care for patients in their homes or in their offices and charge such patients on the basis of the patient's ability to pay. It requires the solution of numerous problems in order that this plan shall succeed, but the Council of the Alameda County Medical Association is devoting its time and effort to the development of this plan in order that fundamentally the practice of medicine shall remain in the hands of the physicians who are practicing medicine.

The families who are not known to recognized charitable agencies who request such agencies to supply them a physician will have such a call referred to a member of the Alameda County Medical Association with the understanding between the prospective patient and doctor that he will make that original call, supply the professional services demanded by such a call and charge the patient a fee that the patient will be able to pay. After all such calls forwarded from recognized agencies, the physician will render a brief report covering such information as he may be able to obtain to a central bureau operated by the county for further investigation as to the patient's financial and social standing in order that a complete determination can be made as to whether the patient is entitled to charity and free medical attention. If the doctor who has been sent on the case can work out the problem with the patient, then he is retained on the case by the patient and the case becomes a part of his own private practice. If he finds that the patient's financial and social condition is such that it is properly an indigent case, he may refer the patient to (1) the clinic operated; (2) the hospital operated by the county for charity cases; and/or (3) the county physician paid by the county to care for indigent cases. Fundamentally, the basis of this plan is to keep the practice of this type of cases in the hands of the physicians in practice rather than for the original care to be assumed by the county.

A great deal of attention has been directed toward the supplying of drugs and the filling of prescriptions at a price that the county may be able to pay. The Alameda County Pharmaceutical Association has been invited to participate and has indicated their willingness to do so. They propose, subject to the development of details, that a basic rate shall be made for the handling of such prescriptions at a price in line with the patient's ability to pay and special discounts will be made on the subject of the recommendation of the physician who has seen the patient and who will continue in charge of the case. Drug stores scattered throughout the territory will be listed so that the patients and the physician may know the service that might be rendered in connection with the handling of this problem.

Likewise, the dental organizations in the county have developed a special service through an independent body, but sponsored by the dental organizations, to care for the dental work which patients require and demand and for which a charge based on the ability of the patient to pay will be made.

"The physicians, the dentists, and the druggists are working harmoniously with Alameda County in our joint efforts to solve this problem. As it nears solution, the plan presents the answer to many of the difficulties which now beset the practice of medicine and the county hospitals and clinics filled to capacity with patients unable to pay regular fees." The hospitals throughout the country are giving serious attention to the same problem with the hope that hospital care may be also offered along similar lines.

State Fair Health Exhibit.—As in former years the State Department of Health will have a health exhibit in the departmental building, incident to the annual State Fair, August 29 to September 3. The location will be the same as last year, although the building allocated for the purpose provides rather cramped quarters for such use.

In general, the exhibit will follow the lines of other health exhibits in recent years, as finances of the department will permit little in the presentation of new material or new ideas, all of which involve considerable initial cost. One new phase will be of especial interest to visitors from rural territory and to tourists. There will be shown a replica of development and equipment required in installing water supply wells under Seal of Safety standards, as perfected last year in providing water supplies in the drought-stricken hill counties under a special legislative appropriation and as now being carried on by the State Department of Highways.

There also will be a showing of charts that will focus public attention on the great number of unnecessary casualties and deaths incident to automobile traffic.

All the divisions and most of the bureaus will display the progress of their work in charts and graphs designed to present them in the simplest and most effective form. Those relating to communicable diseases and infant and child hygiene will be of especial interest. Samples of departmental literature will be displayed, with lists on which those interested may check what they need and have it sent to them.—*Ohio Health News.*

Standardization of Fire Equipment.—The Division of Fire Safety reports that thirteen counties of California are in the ideal condition for flame-fighting, because all the appliances are uniform, and that in four other counties the work will soon be completed. The objective is not to standardize the couplings and all the other things necessary in putting out fires in the five years granted by the legislature, but within two years.

CANCER COMMISSION OF THE C. M. A.

The Cancer Commission was brought into being by the House of Delegates of the California Medical Association to aid in the furtherance of all efforts to combat cancer. The roster of officers and the central office of the Commission to which communications may be sent is printed in this issue of California and Western Medicine (see front cover directory). This column is conducted by the Secretaries of the Commission.

REPORT OF THE COMMITTEE ON GENITO-URINARY TUMORS*

In order to obtain the most advanced opinion on methods of combating cancer of the kidneys, bladder, prostate and testis, questionnaires were sent not only to the Genito-Urinary Committee of the California Medical Association Cancer Commission, but also to some one hundred members of the Western Branch of the American Urological Association. Seventy-eight replies were received, giving us detailed information which has materially aided in making this report.

The committee emphasizes the fact that successful treatment of cancer of the genito-urinary organs depends upon its early diagnosis and proper treatment at the first attack; upon the prompt recognition and treatment of precancerous lesions; and upon the institution of prophylactic measures consisting of eradication of predisposing conditions, such as chronic infection, stone formation, and trauma.

EARLY DIAGNOSIS

Hematuria is an extremely important early sign of cancer of the urinary organs. It should never be regarded lightly. Unfortunately it is often transitory and of short duration. The fact that hematuria usually ceases spontaneously gives the patient a false sense of security and may even cause the doctor to underestimate its significance. It is often the first and, not infrequently, the only sign of early cancer of the kidney, ureter, bladder, or prostate. Except in those cases of hematuria associated with posterior gonorrheal urethritis or with nephritis, blood in the urine calls for a complete urological examination including cystoscopic investigation, urography, etc.

Cystoscopic investigation of the bladder will always reveal cancer of this viscus even in its earliest and most incipient stage. It will also reveal the presence of papilloma of the bladder, quite common and potentially malignant, which, if left alone, will sooner or later degenerate into a malignant tumor, rapidly advancing and soon extending beyond surgical aid. At the time of the first attack of hematuria, inspection of the bladder will often reveal a very small neoplasm which can be easily destroyed by endovesical fulguration. The cancer is nipped in the bud—the precancerous lesion is destroyed before it has assumed malignant properties—and relief is obtained by a simple cystoscopic maneuver. Early diagnosis, in this case, enables permanent eradication of the growth by a simple procedure, often does away with the necessity of a major intervention later, and saves life.

Hematuria, as stated above, is often an early and sometimes the only sign of early neoplasms of the ureter and kidney. Later on, pain, tumefaction, and symptoms due to obstruction of urinary outflow aid in pointing the way to an accurate diagnosis. Cystoscopy (including ureteral catheterization, ureteropyelography, microscopical and chemical study of the urines collected from the kidneys) and functional study of these organs are necessary in order to detect cancer of the kidney and ureter. Early investigation of patients suffering from hematuria may reveal negative findings; however, it is justified by the not infrequent detection of an early cancer of the urinary organs at which stage it can usually be cured.

Cancer of the prostate is often found in an incipient stage on making a pathological study of specimens removed by prostatectomy. Many urologists have noted this finding and have observed that cancer did not recur in these patients. This adds weight to the recommendation of many urologists for early prostatectomy for hypertrophy of the prostate, not only to relieve the patient before advanced back pressure damage to the kidneys, ureter and bladder has occurred, but also before cancer has set in. Routine examination of the gland per rectum will often reveal induration of the posterior lobe and stoney, hard nodules which are so significant of early cancer of the prostate. Likewise, cystourethroscopic study of cases presenting difficult and frequent urination will reveal the cancerous prostatic bar characterized by the formation of nodules and by areas of necrosis. Early diagnosis is our only hope for relief by surgical intervention. In advanced cases palliative treatment is about the only aid that we can give the patient.

In cancer of the testis we have an excellent opportunity of early detection. As in the breast, tumefaction of the testis can be observed early by the patient and this observation brings him to his physician. Careful palpation of the testis will reveal that the tumefaction is located in the testis proper rather than in the epididymis, and in this way one can easily distinguish cancer of the gonad from epididymitis, which is so commonly encountered. Patients presenting swelling in the scrotum following trauma should be carefully examined with the idea of detecting early cancer of the testis.

PROPHYLACTIC MEASURES

On account of the lack of knowledge of the true cause of cancer, prophylactic measures to combat this disease are very few. We know that chronic irritation favors the formation of cancer. It is not uncommon to observe that cancer of the kidney and bladder are associated with calculous formation. Likewise, the constant irritation of chronic infection of the kidneys, ureter and bladder sometimes leads to leukoplakia and malacoplakia, which eventually develop into cancer. We should, therefore, remove stones from the genito-urinary tract and correct stone formation, which is best accomplished by prescribing a proper diet and regimen based on chemical analysis of the stone removed from the patient. Furthermore, we should clear up chronic infection of the kidneys, ureter and bladder and relieve stasis in these organs which is known to favor infection. Until the true rôle of trauma is determined, safety devices should be employed, particularly in hazardous occupations in order to minimize trauma to the testis, kidneys and bladder.

PRESENT-DAY TREATMENT OF CANCER OF THE GENITO-URINARY ORGANS

Testicular Tumors.—There is a consensus of opinion that surgical excision of the testis is always indicated, regardless of type of malignant tumor and of whether or not it is used in conjunction with radiation, these procedures having given a number of five-year cures (forty-one cases reported by those replying to the questionnaire). Approximately 50 per cent felt that radiation is preferable to operative resection for the abdominal lymph gland metastasis. Most of these replies failed to distinguish between the two main types of malignant tumor—teratoma and seminoma. At a meeting of this committee held in Pasadena during the 1932 California Medical Association convention it was agreed that *the most effective treatment for seminoma was orchidectomy with immediate radiation of abdominal lymph glands, this tumor being highly sensi-*

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* Concerning work and reports of Cancer Commission of the California Medical Association, see August California and Western Medicine, pages 124 and 131.

tive to radiation; for teratoma, orchidectomy plus the radical operation of removal of the abdominal lymph glands. Preoperative radiation was felt by some members of the Committee of Reference to be of distinct advantage. Postoperative radiation may also be given, but it was felt that it was of doubtful advantage for metastases from teratoma.

Kidney Tumors.—Nephrectomy is favored by all and has given the greatest number of five-year cures, particularly when performed early before metastases have set in. The greater majority favored postoperative radiation rather than preoperative, and reserved radiation alone for inoperable tumors and those in which this procedure seemed to have a palliative effect on pain and hemorrhage; but in the greater majority of cases it did not cause diminution in size of the growth. Only three urologists reported five-year cures following the employment of radiation alone.

The committee felt that there was no advantage in employing preoperative radiation.† It recommended postoperative radiation, particularly in those cases presenting extrarenal involvement and in those cases in which it was impossible to remove the entire growth. Radiation is most efficacious if employed at the time of operation. It also recommended radiation for inoperable kidney tumors and for recurrences.

Hypernephroma is a radiosensitive tumor in a fairly large percentage of cases, and it was therefore felt that this form of treatment should be used postoperatively for this tumor. For the same reason some felt that preoperative radiation should also be used.† X-ray examination of the chest is suggested, since lung metastases occasionally might be found prior to the operation.

Bladder Tumors.—The inefficacy of any given form of treatment for bladder carcinoma is indicated by the thirteen diverse methods reported in the answers to the questionnaire, viz.:

Fulguration (advised for early cases only);
Excision with radio knife, employing the cutting current with or without radiation.
Surgical extirpation;
Surgical extirpation with radiation;
Resection and radiation therapy;
Cystectomy;
Surgical diathermy;
Surgical diathermy with radium implantation;
Removal with Percy or other cautery through the open bladder;
Cystoscopic diathermy;
Implantation of radium in form of needles or seeds;
Radiation therapy;
Diversion of urinary stream (by suprapubic drainage or by ureteral transplantation into the groin or intestines).

As a general rule, transurethral fulguration was employed for all types of *early* tumors (sufficiently small to be removed at one sitting) and for the small papillomata of the bladder that are so frequently observed and are generally recognized as being potentially malignant. Complete surgical excision with the scalpel, cutting current (radio knife), or cautery, followed by external radiation, seems to have given the best results in early tumors before metastases have occurred. As a matter of fact, 340 cases were cured by those methods of complete excision. This applied particularly to tumors of the fundus where complete removal is technically possible. In case of tumor in the base which cannot be completely excised, electrocoagulation may be done and radon seeds implanted in the base. The use of a heavily filtered radium pack placed in the bladder at the time of the surgery, and to be removed through the cystotomy wound, was also suggested by some members.

The choice of any method depends on the location of the growth in the bladder and the size and character of the tumor. The committee felt that cystectomy and surgical diathermy (through suprapubic cystotomy) should be reserved for cases in which it is impossible to excise the tumor on account of its location or technical difficulties. It does not advocate radiation at the time of operation or after surgical intervention; it might be employed, however, in late cases.

Prostate Malignancies.—Responses to the questionnaires on the treatment of prostatic malignancies indicate that the only hope for cure is early prostatectomy when the capsule has not been invaded, preferably by the perineal exposure followed by radium implantation seeds, or heavily screened pack after enucleation; and by radical prostatectomy followed by deep x-ray in the more advanced cases. Only four doctors of the seventy-eight replying had seen five-year cures where radiation treatment alone had been employed. Almost 50 per cent of the men considered the interstitial application of radium to the prostate to be of distinct palliative value. The committee deplores the indiscriminate use of radium in doses either too small or too large and not accurately placed. It emphasizes that the use of radium requires special training, skill and experience on the part of the surgeon or that these should be supplied by a trained radiologist.

Some think high voltage x-ray is of definite palliative value in the treatment of inoperable carcinoma of the prostate. In the cases in which there is obstruction to the outflow of urine, many advise removal of the obstructing portion by open operation, the punch, electrocoagulation, or transurethral electrical resection. If this cannot be accomplished, ureteral transplantation into the intestines or externally is advised, and this has been performed by fourteen of the reporting urologists.

The committee felt that except in early cases of carcinoma of the prostate this condition is best left alone. Only the very early case can be relieved by complete surgical removal. It advises electric endovesical resection of the obstructing portion in order to relieve urinary obstruction. In cases in which it is impossible to do this, it advises the establishment of adequate drainage by deviation of the urinary stream, by transplantation of the ureter externally or into the intestines, or by cystotomy.

SUMMARY

1. Hematuria, whether slight or extensive, transient or persistent, is the most common sign and often the only symptom of *early* cancer of the kidneys, ureter, and bladder. Malignant tumor must be ruled out by accurate examination before assuming that bleeding is harmless.

2. Cancer of the prostate is curable only in the very earliest stages, and one should look for suspicious hard nodules in every case presenting hypertrophy of this gland.

3. Nodules in the testis proper require immediate exploration.

Respectfully submitted,

C. M. A. Cancer Commission Committee on
Genito-Urinary Tumors.

Charles P. Mathé, Chairman
George G. Reinle, Secretary.
A. Elmer Belt
W. W. Cross
James R. Dillon
B. H. Hager
Frank Hinman
Verne C. Hunt
Irving S. Ingber
A. A. Kutzmann
Guy Manson
A. M. Meads
Anders Peterson
A. J. Scholl
Irving Wills
Burnett W. Wright

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† Note by Cancer Commission.—From discussion at a joint meeting with members of the Radiological Committee and from comments by others, it appears that there is a well-marked division of opinion regarding preoperative radiation for kidney tumors in general, including hypernephroma. It is felt by some that preoperative radiation is of little value and only delays surgery. Many radiologists, on the other hand, regard preoperative radiation as of great importance both for its effect upon the tumor and metastases and also for control of hemorrhage. This point of view is set forth in the following comment received from one member: "We have ample evidence of the value of preoperative radiation. The more this fact is recognized by the clinician the less need there will be for postoperative radiation. It is not unusual to see an 'operable malignancy' entirely done away with so that the operation itself becomes unnecessary."

It is hoped that time will develop statistical "end result" evidence upon which this point can be settled in future statements.

STATE MEDICAL ASSOCIATIONS

This department contains official notices, reports of county society proceedings and other information having to do with the state associations and their component county societies. The copy for the department is edited by the state association secretaries, to whom communications for this department should be sent. Rosters of state association officers and committees and of component county societies and affiliated organizations, are printed in the directories noted under Miscellany, on the front cover index.

CALIFORNIA MEDICAL ASSOCIATION

JOSEPH M. KING	President
GEORGE G. REINLE	President-Elect
EMMA W. POPE	Secretary-Treasurer

OFFICIAL NOTICE

Proposed Amendments to the Constitution

(Second Publication)

Article XII, Section 2—Annual directory, reading:

The Association shall publish an annual directory of members, with such other information as the Council may direct,

shall be amended to read:

The Association *may* publish an annual directory of members, with such other information as the Council may direct.

* * *

Article VII, Section 1.—The Council, reading:

The Council shall consist of the councilors, and ex officio: the president, the president-elect, and the speaker of the House of Delegates, each with all the rights of a councilor.

Subject to the provisions herein, the secretary-treasurer and the editor shall also be ex-officio members of the Council, but without the right to vote,

shall be amended to read:

The Council shall consist of the councilors, and ex officio: the president, the president-elect, the speaker of the House of Delegates, *and the chairman of the Committee on Public Relations,* each with all the rights of a councilor.

Subject to the provisions herein, the secretary-treasurer and the editor shall also be ex-officio members of the Council, but without the right to vote.

* * *

Article VII, Section 8—Executive Committee, reading:

The Executive Committee shall consist of the president, the president-elect, the speaker of the House of Delegates, the chairman of the Council, the chairman of the Auditing Committee, the secretary-treasurer, and the editor,

shall be amended to read:

The Executive Committee shall consist of the president, the president-elect, the speaker of the House of Delegates, the chairman of the Council, the chairman of the Auditing Committee, *the chairman of the Committee on Public Relations,* the secretary-treasurer, and the editor.

COUNCIL MINUTES

Minutes of the Two Hundred and Eleventh Meeting of the Council of the California Medical Association at Los Angeles

September 24, 1932

The following minutes were unanimously approved by mail vote of the Council.

Held in the directors' room, California Club, 538 South Flower Street, Los Angeles, Saturday, September 24, 1932, at 9:30 a. m.

Present.—Doctors Joseph M. King, president; George G. Reinle, president-elect; Edward M. Pallette, speaker; Councilors William Roblee, Henry J. Ullmann, Fred DeLappe, Alfred L. Phillips, Karl L. Schaupp, O. D. Hamlin, J. B. Harris, Henry S. Rogers, Robert A. Peers, G. G. Hunter, Ruggles A. Cushman, William H. Kiger, M. R. Gibbons, T. Henshaw Kelly; George H. Kress, editor; Emma W. Pope, secretary; Walter M. Dickie, director of the Department of Public Relations; and Mr. Hartley F. Peart, general counsel. John H. Graves, chairman of the Committee on Public Relations, was present during the afternoon session.

Absent.—Dr. William Duffield.

1. **Roll Call.**—The meeting was called to order by the chairman, O. D. Hamlin.

Financial Department:

2. **Financial Statements.**—Financial statements for the months of May, June, July, and August, 1932, were presented by the secretary and approved as follows:

May, 1932

Total receipts for May		$ 3,420.96
Total expenses for May		9,789.55
*Loss for May		6,368.59
Gain for four months		25,791.05
Total gain for 1932		19,423.46
Cash on hand, January 31, 1932	$32,791.28	
Cash on hand, Revolving fund	1,000.00	
Cash on hand, Petty cash	50.00	
Cash on hand, Salary fund	1,300.00	35,564.74
Total cash on hand, May 31, 1932		$54,564.74

June, 1932

Total receipts for June		$ 4,238.87
Total expenses for June		8,439.92
*Loss for June		4,201.05
Gain for five months		19,422.46
Total gain for 1932		$15,221.41
Cash on hand, January 31, 1932	$32,791.28	
Cash on hand, Revolving fund	1,000.00	
Cash on hand, Petty cash	50.00	
Cash on hand, Salary fund	1,300.00	35,141.28
Total cash on hand, June 30, 1932		$50,362.69

July, 1932

Total receipts for July		$ 3,798.54
Total expenses for July		6,846.83
*Loss for July		3,048.29
Gain for six months		15,221.41
Total gain for 1932		$12,173.12
Cash on hand, January 31, 1932	$32,791.28	
Cash on hand, Revolving fund	1,000.00	
Cash on hand, Petty cash	50.00	
Cash on hand, Salary fund	1,300.00	35,141.28
Total cash on hand, July 31, 1932		$47,314.40

August, 1932

Total receipts for August		$ 2,570.43
Total expenses for August		5,891.68
*Loss for August		3,321.25
Gain for seven months		12,173.12
Total gain for 1932		8,851.87
Cash on hand, January 31, 1932	$32,791.28	
Cash on hand, Revolving fund	1,000.00	
Cash on hand, Petty cash	50.00	
Cash on hand, Salary fund	1,300.00	35,141.28
Total cash on hand, August 31, 1932		$43,993.15

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* The apparent increase of expenses over receipts from April to December is occasioned by the fact that the major portion of dues is received during the first three months of the year.

3. **Annual Meeting Expense.**—The secretary presented a letter from the president of the Los Angeles County Medical Association which stated that $500 allocated to the Committee on Arrangements for the Pasadena session remained as an unspent balance in the hands of the committee and that the Board of Trustees of the Los Angeles County Society was desirous of knowing what disposition the Council wished made of the money.

Several members of the Los Angeles association stated that it had been the intention of Doctor Mattison to return this unexpended balance to the California Medical Association. The members felt the money should be returned to the State Association.

Action by the Council.—On motion of Pallette, seconded by Kiger, and unanimously carried, the following resolution was adopted:

Resolved, That a reply be sent to the Board of Trustees of the Los Angeles County Medical Association informing it that it was the Council's understanding that the State Association was merely appropriating or underwriting any expenditure over and above the $1,000 which had been appropriated by the Los Angeles County Medical Association Board of Trustees for the entertainment of guest of the California Medical Association.

4. **Medical Library Appropriations.**—Letters from Lane and Barlow Medical Libraries were presented, which expressed appreciation of the Association's donations.

5. **Herzstein Bequest.**—The general counsel stated that the first account of the Wells Fargo Bank & Union Trust Company, trustee for the Herzstein bequest, had been made on August 24, 1932. The general counsel stated that he had informed the trustees that the income from the bequest was being used for the purpose set forth in the bequest, and that the books of the Association should show by proper segregation that the income from this bequest is being used for the purposes set forth in the bequest.

Action by the Council.—On motion of Kress, seconded by Ullmann, and unanimously carried, the following resolution was adopted:

Resolved, That the Herzstein Bequest Fund be set up on the books of the Association to show the specific purposes for which it is being used in accordance with the original bequest.

6. **Exhibits at Fairs.**—Letter from Walter M. Dickie, director of the Department of Public Relations, was read, stating that an exhibit had been installed at the Sacramento State Fair and the Los Angeles County Fair at Pomona and that the estimated expense would be approximately $1000. It was suggested that the cost of such educational exhibits be defrayed by moneys from the Herzstein Bequest Fund. No objection.

Administrative Department:

7. **Council Minutes.**—Minutes of the 210th meeting of the Council as mailed to all councilors were presented.

Action by the Council.—On motion of Kelly, seconded by Schaupp, and unanimously carried, the following resolution was adopted:

Resolved, That the minutes of the 210th meeting of the Council be approved as corrected.

8. **Reinstatement of Members.**—In accordance with Chapter II, Section 2, of the Constitution, the secretary presented a list of members whose memberships had lapsed on account of failure to pay annual assessments by April 1. Doctor Pope stated that all of the physicians named had now paid their annual assessment.

Action by the Council.—On motion of Kelly, seconded by Gibbons, and unanimously carried, the following resolution was adopted:

Resolved, That all members of the California Medical Association whose dues have been received since April 1, 1932, be reinstated to good standing in the Association.

9. **Appointment of Chairman of Obstetrics and Gynecology Section.**—The secretary stated that in accordance with Section 8, Article X, of the Constitution, the Council should appoint a chairman for the Section of Obstetrics and Gynecology in place of Phil Boller, deceased. Letter from the nominating committee of the section recommending that Dr. E. M. Lazard be appointed was read.

Action by the Council.—On motion of King, seconded by Gibbons, and unanimously carried, the following resolution was adopted:

Resolved, That E. M. Lazard, M. D., be appointed chairman of the Section on Obstetrics and Gynecology to fill the unexpired term of Phil Boller, deceased.

10. **Medical Advertising.**—A letter was read from the secretary of the Alameda County Medical Association enclosing article suggested for newspaper advertising by certain members of the East Bay Eye, Ear, Nose, and Throat Association to combat advertising of certain optometrists.

After discussion, on motion of Gibbons, seconded by Pallette, and unanimously carried, it was

Resolved, That the Council advise the colleagues of Alameda County interested in this branch of medicine that it is not within the jurisdiction of the Council to pass upon matters of this character, but it feels that such advertising is unwise and inexpedient and the Council recommends that the Alameda County Medical Society suggest that such publicity be placed in health columns of newspapers.

11. **Arrangements Committee for 1933 Annual Session.**—In accordance with Chapter IV, Section 6, of the Constitution, the chairman stated that he had appointed as members of the Arrangements Committee for the 1933 annual session, Dr. William Gratiot (chairman), Spencer Hoyt, John A. Merrill, Alfred L. Phillips, and T. Henshaw Kelly. It was the sense of the Council that the membership of the Committee on Arrangements be approved.

12. **Dependent Members.**—Doctor Peers reported on the financial status of an aged and ill member of Placer County Society. It was pointed out that there was no fund that could be used to care for such members in either the State Association or the county society.

Doctor Ullmann suggested that a notice be inserted in the Journal stating that contributions would be accepted for use in the care of dependent members of the Association and their families. It was stated that the name of the member should not be included in the notice and that the money should be given to such dependent member through the councilor for the district in which the member resided.

Action by the Council.—On motion of Ullmann, seconded by Gibbons, and unanimously carried, the following resolution was adopted:

Resolved, That it be the policy of the Council to adopt such procedure in such cases.

Action by the Council.—On motion of King, seconded by Peers, and unanimously carried, the following resolution was adopted:

Resolved, That the dues of the Placer County member be remitted for 1932 and returned.

13. **Tuolumne County Society.**—Fred R. DeLappe, councilor of the fourth district, submitted a written report on the inactivity of the Tuolumne County Society. The report stated that the only members from whom Doctor DeLappe had been able to obtain an expression of opinion had stated that no meetings had been held by the Tuolumne County Society and that three members preferred to affiliate with an active society of their own choice, preferably San Joaquin County Society. Doctor DeLappe recommended, in consideration of the facts, that the charter of the Tuolumne County Society be withdrawn and the doctors allowed to affiliate with the society of their own choice.

Action by the Council.—On motion of Hunter, seconded by Ullmann, and unanimously carried, the following resolution was adopted:

Resolved, That the report of the councilor, Doctor DeLappe, be adopted.

14. **Councilor Reports.**—A letter was read from Fred R. DeLappe regarding topics for discussion at visits by councilors to county societies. It was suggested that councilors use their own judgment in discussion of the activities of the Association during the past year.

15. **Retired Memberships.**—Request from the San Francisco County Society was presented recommending that retired membership be granted Samuel Zussman, M. D.

Action by the Council.—On motion of Gibbons, seconded by Schaupp, and unanimously carried, the following resolution was adopted:

Resolved, That Samuel Zussman, San Francisco, member of the San Francisco County Medical Society, be granted retired membership in the California Medical Association.

A letter from the San Francisco County Society requesting that Henry Harris, M. D., be recommended to the House of Delegates for honorary membership in the California Medical Association was read.

Action by the Council.—On motion of Pallette, seconded by Hunter, and unanimously carried, the following resolution was adopted:

Resolved, That Henry Harris, San Francisco, member of the San Francisco County Medical Society, be recommended to the House of Delegates for honorary membership in the California Medical Association.

A request was presented for the granting of retired membership in California Medical Association to E. H. Bryan, M. D., Placer County.

Action by the Council.—On motion of King, seconded by Peers, and unanimously carried, the following resolution was adopted:

Resolved, That E. H. Bryan, Dutch Flat, member of the Placer County Medical Society, be granted retired membership in the California Medical Association.

16. **Nineteen Thirty-Four American Medical Association Meeting.**—The secretary stated that the president of the Los Angeles County Medical Association had advised that he would take up the matter of an invitation to the American Medical Association for the 1934 session with Pasadena members and that if it were decided to extend such invitation a report would be made at the January Council meeting.

Editorial Department:

17. **Contract for Advertising Agent.**—The general counsel reported on revisions in the advertising contract of Mr. Flynn.

Action by the Council.—On motion of Kelly, seconded by Rogers, and unanimously carried, the following resolution was adopted:

Resolved, That the officers of the Association be authorized to execute the new advertising contract with Mr. Flynn.

18. **Advertising in Journal.**—The secretary reported on advertising losses in the Journal stating that the total number of advertisers in August, 1931, had been 96; in August, 1932, it had dropped to 79, a loss of 17 advertisers; that the loss in advertising for the first eight months of 1932 as compared with the first eight months of 1931 was $4,882.93, and the loss in actual cash received for the first eight months of 1932 as compared with the first eight months of 1931 was $4,493.28.

Action by the Council.—On motion of Ullmann, seconded by Peers, and unanimously carried, the following resolution was adopted:

Resolved, That the report be accepted and placed on file.

19. **Prize Paper.**—Doctor Kress presented galley proof of a paper which had been submitted in the prize contest and stated that the author desired to rewrite portions thereof. It was the sense of the Council that there was no objection to such revision, if all reference to the paper having been presented in the prize contest were deleted.

Discussion was had of a paper submitted for publication in the Journal and on motion of King, duly seconded, the following resolution was adopted:

Resolved, That the paper be referred to the Committee on Publications for report at the January Council meeting.

20. **Reallocation of Expenses.** — The editor asked what the present status of the reallocation of expenses of the Journal was and the secretary reported that the allocation agreed upon by the Special Committee in its report had been instituted, effective July 1, 1932.

21. **Woman's Auxiliary.**—The editor presented a request from the president of the Woman's Auxiliary asking that the space allocated to the auxiliary be increased to permit publication of a list of state auxiliary officers, councilors, and chairmen.

It was the sense of the Council that the list of names be printed once as a news item.

Legal Department:

22. (See footnote.)

23. (See footnote.)

24. (See footnote.)

25. (See footnote.)

Miscellaneous:

26. **Woman's Auxiliary.**—A letter was read from the chairman of the Committee on Associated Societies and Technical Groups recommending that the Council pass a resolution suggesting that the auxiliary reach the maximum of organization and efficiency.

Action by the Council.—On motion of Hunter, seconded by Kelly, and unanimously carried, the following resolution was adopted:

Resolved, That the Council express to the various county societies in which woman's auxiliaries have not yet organized that it might be desirable to ask the president or the secretary to appoint some woman or women to assist in the organization of an auxiliary; and that in the smaller counties it might be advantageous for two or more counties to combine in the formation of an auxiliary.

A letter was read from the chairman of the Committee on Associated Societies and Technical Groups suggesting coöperation with the auxiliary of the dental association. Favorable action was not taken on account of the lack of coördination of the dental association.

27. **Committee on Physical Therapy.**—Dr. John Severy Hibben of Pasadena addressed the Council on the value of an investigation of the use of physical therapy. Doctor Hibben suggested that a committee of six be appointed to investigate the practice of physical therapy from the standpoint of education and practice and submit a written report of its findings at the next annual session of the California Medical Association.

Action by the Council.—On motion of Gibbons, seconded by Reinle, and unanimously carried, the following resolution was adopted:

Resolved, That the Council appoint a special committee of six to investigate and study the practice of physical therapy and report at the next annual session.

28. **Standing Committees.**—The secretary stated that the Committees on Medical Defense, Publications and Medical Education and Hospitals had not yet appointed chairmen. That in accordance with the ruling that all standing committees shall appoint chairmen within two months after any annual session, or such chairmen shall be appointed by the Council, chairmen should be appointed for the foregoing committees.

Action by the Council.—On motion of Reinle, seconded by Pallette, and unanimously carried, the following resolution was adopted:

Resolved, That Henry Snure be appointed chairman of the Committee on Medical Defense.

Note.—Minutes 22, 23, 24 and 25 refer to matters still under consideration by the Council. Publication will be made in due time.

Action by the Council.—On motion duly made and seconded, and unanimously carried, the following resolution was adopted:

Resolved, That Percy T. Magan be appointed chairman of the Committee on Publications.

Action by the Council.—On motion of Kress, seconded by Ullmann, and unanimously carried, the following resolution was adopted:

Resolved, That George Dock be appointed chairman of the Committee on Medical Education and Medical Institutions.

29. **Councilor-at-Large.**—Dr. Ruggles A. Cushman, councilor-at-large from Orange County, stated that on account of change of residence, he wished to submit his resignation as councilor-at-large. Doctor Cushman suggested that Harry Zaiser be appointed to fill his unexpired term.

Action by the Council.—On motion of Pallette, seconded by Kelly, and unanimously carried, the following resolution was adopted:

Resolved, That the resignation of Ruggles A. Cushman be accepted with regret, and that Dr. Harry Zaiser of Orange be appointed councilor-at-large to fill the unexpired term of Doctor Cushman, term expiring 1933.

30. **X-Ray Forms.**—Discussion was had of publicity for the forms prepared on the ownership of x-ray plates.

Action by the Council.—On motion of Schaupp, seconded by Gibbons, and unanimously carried, the following resolution was adopted:

Resolved, That the secretary be directed to send an explanatory letter to the secretary of each county society enclosing forms on the ownership of x-ray films.

31. **Next Council Meeting.**—Discussion was had of the date of the next meeting of the Council. It was the sense of the members that the next meeting of the Council be held on Saturday, January 21, 1933.

32. **Illness of Doctors Duffield and Phillips.**—Members of the Council expressed regret on the illnesses of Doctors William Duffield and Percy T. Phillips.

It was the sense of the Council that flowers be sent to Dr. William Duffield and Dr. Percy T. Phillips with an expression of sympathy and good wishes of the Council.

33. **Noon Adjournment.**—At this point, adjournment was taken for luncheon.

34. **Call to Order.**—The afternoon session of the Council was called to order by the chairman, O. D. Hamlin.

35. **Hospitality of Dr. J. M. King.**—Members of the Council expressed appreciation of the hospitality of Dr. J. M. King.

Action by the Council.—On motion duly made, seconded and unanimously carried, the following resolution was adopted:

Resolved, That a vote of thanks be tendered Dr. J. M. King for his generous hospitality.

36. **Death of Doctor Mattison.**—Members of the Council expressed regret of the death of Dr. F. C. E. Mattison, and on motion duly made, seconded and carried, the following resolution was adopted:

Whereas, An All Wise Father has taken from his work on earth, Fitch C. E. Mattison; and

Whereas, As a member of the California Medical Association, Fitch C. E. Mattison held many positions of responsibility, among others that of president in the year 1913; and

Whereas, His work in and for his profession and for the public health endeared Fitch Mattison to all with whom he contacted; now, therefore, be it

Resolved, That the Council of the California Medical Association at this meeting on September 24, 1932, express its sorrow at the loss of a friend, a fine physician, and a wise councilor; and be it further

Resolved, That a copy of this resolution be spread on the minutes of that meeting and that a copy be sent to the bereaved family.

37. **Clinic Legislation.**—The director of the Department of Public Relations stated that Doctor Ruddock, chairman of the Committee on Hospitals, Dispensaries, and Clinics, had prepared an outline of proposed legislation for conducting clinics with an idea of certifying all clinics by some state department and that he would present his rough draft at the next meeting of the Committee on Public Relations.

Action by the Council.—On motion of King, seconded by Pallette, and unanimously carried, the following resolution was adopted:

Resolved, That the committee of which Doctor Ruddock is chairman together with the Committee on Public Policy and Legislation and the general counsel draw up a bill covering clinics and present same for consideration at the January Council meeting.

38. **Medical Service Plan.**—Doctor Graves, chairman of the Committee on Public Relations, stated that he had presented his resignation as chairman of the Committee on Public Relations, which had been accepted and that Dr. Charles A. Dukes was now chairman of the Committee on Public Relations.

Doctor Graves then read his chairman's report to the Committee on Public Relations, which report was approved by said committee for submission to the Council and is as follows:

CHAIRMAN'S REPORT TO THE COMMITTEE ON PUBLIC RELATIONS

"Before surrendering the chairmanship of this committee, I feel that it is due the members of this committee, the Council, and the Association to express certain personal views:

"First: On various plans and suggestions that have been submitted for rendering medical service to people of moderate means.

"Second: An expression of opinion on the necessity of the Council conferring upon this committee, authority to perform necessary functions, control expenditures of moneys appropriated for this committee's activities, and authority to employ and dismiss personnel engaged in activities inaugurated by this committee.

"Under heading number 1, plans for providing medical service to people of moderate means, it is the opinion of the chairman of the Public Relations Committee that while the plan of organization outlined by the legal counsel affords a method of procedure and the plan outlined by Mr. Roy Kelly contains suggestions that are of some value, that a simpler form of organization for this work is possible; that much thought and investigation prompts the offering of the following:

"That the medical profession through the various county units offer to people whose income for the past year is below a certain fixed sum, provided ascertainable assets are below certain fixed amounts, professional service which means physician's attendance only, for any and all types of diseases and injuries, which do not come under the Workmen's Compensation Act, for fixed annual, semi-annual, or quarterly payments;

"That their county units shall, in accordance with the legal counsel's suggestions, operate as a partnership, and the divisions of moneys received be as suggested, on a unit basis.

"This suggestion is made because, in the final analysis, the medical profession cannot be reasonably expected to furnish hospital, laboratory service, x-rays, drugs and dressings, and other incidental costs of illness. It would be equally logical to expect the medical profession to defray the loss during sickness, of wages, to pay the rent, the grocery bills, and other losses unavoidably suffered by every individual during a period of disability.

"Such a plan definitely answers the critics of our profession who claim that we are not interested in coöperative efforts of a social nature.

"To further assist persons of moderate means in meeting the expense of illness separate and distinct from doctor's services, the suggestion is made that this partnership, consisting of the members of the county medical society, promote a hospital insurance plan among the hospitals of their respective communities. It is suggested that the hospitals be induced to form a coöperative organization that will offer to the public for an annual, semi-annual or quarterly fee, ward accommodations with ordinary laboratory, operating room, and floor nursing service for all diseases not termed contagious, and all injuries not coming under the Workmen's Compensation Act for periods of one, two, and three months' duration.

"The cost of the hospital insurance would depend upon the period of hospitalization that the holder of the policy desired, and would be very much less for three months' insurance than three times the amount for one month's insurance. The necessity for, and the duration of hospitalization, when the question arises should be determined by a physician representing the hospital and the physician attending the insured, and in case of disagreement determined either by an outside member of the partnership or a grievance committee representing the partnership.

"Such a plan would automatically bring in practically every hospital in the community after its adoption by any single one.

"The partnership of physicians coöperating with the hospital organization could offer membership in both, through the same agencies and without added selling cost.

"Rates for children and dependents and arrangements for obstetrical service are simply matters of detail easily settled. Such a plan preserves inviolate the relation of physician and patient, and distributes the cost of illness as efficiently as any insurance system.

"I most earnestly urge the adoption of this plan with recommendation by this committee for the approval of the Council, including therein the principles already adopted by this committee.

"Under the second heading it must be obvious to the members of this committee that after several meetings during the past three months that it is not practical to await three months for a Council meeting to secure approval from the Council for many things that this committee through its director and chairman are compelled to do.

"The sum of Ten Thousand Dollars ($10,000) for the activities of this committee was appropriated by the Council, who budgeted and absorbed the entire amount in the payment of the salaries of a director and stenographers and office rent.

"No member of this committee, so far as I know, was consulted as to the salary or the individual who was to fill any of the designated offices. This was, in my judgment, an unwise and impossible method of transacting business, and it is my hope that the Council will confer upon this committee the privilege of expending any moneys allocated, or employing any personnel necessary with the same free untrammelled hand that is usual in successful private business enterprises."

* * *

Doctor Graves then read the report of the Committee on Public Relations to the Council, as follows:

REPORT OF THE COMMITTEE ON PUBLIC RELATIONS TO THE COUNCIL

I. The Committee on Public Relations recommends that the Council adopt certain basic principles which must underlie any medical service plan for county groups or portions thereof herewith submitted:

Principle 1. The plan should include an insurance principle whereby the beneficiary pays at periodic intervals specified sums to be used for the defraying of the expenses of his medical and surgical care.

Principle 2. Medical and/or hospital service should be considered separately from indemnity for disability; the service in the beginning should be limited to professional attendance only.

Principle 3. The sole control of any organization for medical and surgical service should be limited to members of the profession.

Principle 4. Limitation of service may be prescribed, but it is advised that full medical and surgical service be offered to the beneficiary, exempting cases coming under Workmen's Compensation Act. Obstetrical cases will be entitled to service only after twelve months' membership.

Principle 5. Compensation for professional service (medical and surgical) should be on a unit basis.

Principle 6. Professional service under any plan adopted should be limited to the membership of a component county medical society or groups thereof endorsed through its official organization. No plan should be adopted or put into effect except with the approval and under the direction of the Department of Public Relations.

Principle 7. The beneficiary member should have the right of selection of any doctor from the entire membership of the county society or group thereof that participate in the plan.

II. The committee recommends that the Council approve, for the purpose of submitting to interested county societies, the following plans, herewith submitted:

(*a*) A plan for rendering medical and surgical service only by members of a component county medical society through a medical service firm substantially as set forth in the reports and forms herewith submitted.

(*b*) A plan for rendering hospital service only through a membership corporation controlled by members of component county medical societies substantially according to the forms herewith submitted.

(*c*) A plan to render medical and surgical service and hospital service by plans *a* and *b* jointly.

(*d*) A plan for rendering both medical and surgical service by such medical service firm, and hospital service by an organization controlled and operated by hospitals.

III. The committee recommends that it be authorized to assist any county society or representative group thereof interested in such activities.

IV. The committee recommends that the authority be granted to the committee suggested in the chairman's report.

The following were appended to the report of the Committee on Public Relations.

(*a*) Personal report of the chairman of the Committee on Public Relations.

(*b*) Tentative forms for a medical service plan for use by a component medical society to furnish both medical and surgical service and hospitalization jointly, as follows:

1. Agreement of copartnership.
2. Medical service contract.
3. Application for medical service contract.
4. Staff rules.
5. Fee schedule.
6. Report forms.
7. Articles of incorporation.
8. Certificate of beneficiary.

(*c*) Report of the general counsel dated July 29, 1932, to the Committee on Public Relations in reference to said forms.

(*d*) Report of Mr. Roy W. Kelly.

* * *

ACTION OF THE COUNCIL ON ITEMS OF REPORT, SERIATIM

On motion of Pallette, seconded by Kiger, it was Resolved, That the report of the Committee on Public Relations be accepted and the recommendations contained therein be approved.

Doctor Kelly requested that the Council pass upon each of the items of the report *seriatim.*

After discussion, Doctor Pallette withdrew his motion and the Council agreed to act upon the recommendations contained in the report, including the basic principles, *seriatim.*

Recommendation I was then read and on motion of King, seconded by Ullmann, was adopted as amended, as follows:

I. The Committee on Public Relations recommends that the Council adopt certain basic principles which must underlie any medical service plan which is inaugurated by component county medical societies or portions thereof; provided two-thirds of all members thereof vote for it.

Action by the Council.—On motion duly made and seconded, the following resolution was adopted:

Resolved, That wherever the word "should" appears in the Principles it shall be changed to read "shall."

Principle 1 as thus amended read as follows: The plan shall include an insurance principle whereby the beneficiary pays at periodic intervals specified sums to be used for the defraying of expenses of his illness.

Action by the Council.—On motion of King, seconded by Ullmann, Principle 1 was adopted.

Principle 2 as thus amended read as follows: Medical and/or hospital service shall be considered separately from indemnity for disability; the service in the beginning shall be limited to professional attendance only.

Action by the Council.—On motion of Ullmann, seconded by Kiger, Principle 2 was adopted.

Principle 3 as thus amended read as follows: The sole control of any organization for medical and surgical service must be limited to members of the profession.

Action by the Council.—On motion of Pallette, seconded by King, Principle 3 was adopted.

Principle 4 was not presented to the Council and no action was taken thereon.

Principle 5 as thus amended was read as follows: Compensation for professional service (medical or surgical) shall be on a unit basis.

Action by the Council.—On motion of Gibbons, seconded by King, Principle 5 was adopted.

Principle 6 was presented and was amended to read as follows: Professional service under any plan adopted shall be limited to the membership of a component county medical society or groups thereof endorsed through its official organization by a two-third's majority of all its members. No plan shall be adopted or put into effect except with the approval and under the direction of the Department of Public Relations.

Action by the Council.—On motion of Kelly, seconded by Schaupp, Principle 6 was adopted.

Principle 7 was presented and was amended to read as follows: The beneficiary member shall have the right of selection of any physician or surgeon from the entire membership of the county society or group thereof that participates in the plan.

Further discussion was had of limitation of professional service to that actually performed by the individual physician, as provided in the forms prepared by the General Counsel.

Action by the Council.—On motion of Gibbons, seconded by Schaupp, the following resolution was adopted:

Resolved, That the following Principle, to be numbered 8, be adopted; reading as follows: No member of any county medical society participating in any approved medical service plan shall be entitled to any compensation for any medical or surgical service rendered by him to any beneficiary member unless rendered by him personally and directly and without the intervention of any doctor of medicine as an associate, assistant or otherwise unless the services of more than one doctor of medicine are necessary or advisable in the opinion of the professional administrator in charge.

* * *

Recommendation II was then read as follows:

II. The committee recommends that the Council approve, for the purpose of submitting to interested county societies, the plans herewith submitted:

Recommendation II, plan *a* was considered as follows:

(*a*) A plan for rendering medical and surgical service only by members of a component county medical society through a medical service firm substantially as set forth in the reports and forms herewith submitted.

Action by the Council.—On motion of Ullmann, seconded by Schaupp, plan *a* of recommendation II of the report was adopted.

* * *

Recommendation II, plan *b* was considered as follows:

(*b*) A plan for rendering hospital service only through a membership corporation controlled by members of component county medical societies substantially according to the forms herewith submitted.

The chairman of the committee was asked what plans the words "the following forms herewith submitted" referred to and advised that they referred only to the forms prepared by Mr. Peart.

Action by the Council.—On motion of Kelly, seconded by Kiger, plan *b* of recommendation II of the report was adopted.

* * *

Recommendation II, plan *c* was considered as follows:

(*c*) A plan to render medical and surgical service and hospital service by plans *a* and *b* jointly.

Action by the Council.—On motion of Ullmann, seconded by King, plan *c* of recommendation II of the report was adopted.

* * *

Recommendation II, plan *d* was considered as follows:

(*d*) A plan for rendering both medical and surgical service by such medical service firm, and hospital service by an organization controlled and operated by hospitals.

Action by the Council.—On motion duly made and seconded, plan *d* of recommendation II of the report was adopted.

* * *

Doctor Graves stated that at the request of the Committee on Public Relations, Doctor Dickie and Mr. Peart had worked out tentative forms by which medical service and hospital service could be offered to certain groups of individuals in conformity with the law in every respect, which forms are filed with and made a part of the report of the Committee on Public Relations. Mr. Peart enumerated these forms.

The general counsel stated to the Council that the tentative forms prepared by Doctor Dickie and himself were based upon instructions of the Committee on Public Relations and provided forms for the furnishing of medical service and hospital service jointly and through a component county medical society; that the report of the committee which recommended furnishing either medical service or hospital service, each apart from the other, would necessitate the consideration of the provisions of the Medical Practice Act relating to the solicitation of patients as well as other necessary modifications involved by an entirely different use of the forms from that contemplated in the instructions of the committee.

Doctor Hunter asked what the liability of the component county medical society would be in case of suit for malpractice. Doctor Graves then asked the general counsel to answer the question of liability and Mr. Peart stated that, unquestionably, in law the firm would be considered an agency of the component county society and that malpractice and other liability would have to be properly protected by insurance.

Action by the Council.—On motion of Hunter, seconded by Ullmann, recommendation II was adopted as a whole.

Mr. Peart referred to the considerations set forth in his said letter of transmittal of above forms to the Committee on Public Relations, dated July 29, 1932. Mr. Peart stated that the forms prepared by him in conjunction with Doctor Dickie for medical and surgical and hospital service were based upon Doctor Wilson's report and were tentative; that subsequent meetings of the Committee on Public Relations had evolved desirable amendments and changes and it was now proposed to render medical and surgical services apart from the hospital service, whereby necessary modifications of the forms were involved. The general counsel also directed attention to his said letter wherein it is set forth that certain necessary forms for the hospital service had not been prepared due to lack of definite detail as to just what forms were desired.

Action by the Council.—On motion of Gibbons, seconded by Hunter, and unanimously carried, the following resolution was adopted:

Resolved, That the said tentative forms be approved subject to correction and such necessary modification thereof as the Committee on Public Relations and the general counsel shall deem advisable and as is necessarily involved in the segregation of the plans to furnish medical and surgical care apart from hospital service; and that the general counsel, with the aid and assistance of the committee, prepare such further forms as may be necessary to the operation of said medical service plans *a, b, c,* and *d,* and that the general counsel advise as to any legal considerations involved in the segregation of the plans.

* * *

Recommendation III was then read as follows:

The committee recommends that it be authorized to assist any county society or representative group thereof interested in such activities.

Action by the Council.—On motion of DeLappe, seconded by Pallette, recommendation III was adopted.

* * *

Recommendation IV was read as follows:

The committee recommends that the authority be granted to the committee suggested in the chairman's report.

Discussion was then had.

Doctor Kelly stated that when the budget of the Department of Public Relations was submitted to the House of Delegates at its 1932 session for its approval, the said budget had been made and submitted by the Director of the Department. He further called the attention of the Council to the fact that the said Director and the Department were then operating under the resolution passed by the 1931 House of Delegates, which created the Department; and which placed the Director in charge of the Department and put upon him the responsibility of fixing a budget and submitting it for approval. The Director had discharged this obligation and neither he nor the Council was responsible for the changes made in the Department with the consequent temporary and remediable lack of funds.

Action by the Council.—On motion of Gibbons, seconded by Kelly, the following resolution was adopted:

Resolved, That the Committee on Public Relations be and it is hereby authorized to perform necessary functions, control expenditures of moneys appropriated for said Committee's activities, and employ and dismiss personnel engaged in activities inaugurated by said Committee.

* * *

It was the sense of the Council that no publicity be given at present.

39. **Plan of Alameda County Society.**

Action by the Council.—On motion of Reinle, seconded by King, the following resolution was adopted:

Resolved, That Dr. Daniel Crosby be granted the privilege of the floor to explain the plan adopted by Alameda County for care of clinic patients.

Doctor Crosby then read the following resolution which had been adopted by the Alameda County Society:

Whereas, It has come to the attention of the Council of the Alameda County Medical Association that certain changes have taken place in connection with the work performed by the county through its county physicians and the considerations that they had made to indigent sick and dependent poor; and

Whereas, Public health centers have up to this time cared for certain patients from whom certain fees have been taken and who appear to be not eligible for care at the expense of the public under the Indigency Acts of the State of California; and

Whereas, The medical profession realizes the need of maintaining a service for patients that are not able to pay a full fee, therefore it appears to be necessary to establish a plan whereby certain patients formerly cared for at health centers, who do not technically fall under the term "indigency" and at the same time require attention at the hands of reputable physicians, and whose care should be assumed at a price within the ability of the patient to pay; therefore, be it

Resolved, That the Alameda County Medical Association agrees to establish a list of physicians who will volunteer to accept calls from such classes of patients and to render service when called, in coöperation with established official county agencies and centralized social service as established in Alameda County, and according to such additional plans as may be developed.

Doctor Crosby then explained the service briefly.

Letter to members of the Alameda County Society was presented by Doctor Crosby, who stated that they had had almost unanimous response of members to the suggested plan for caring for the poor through doctors' offices on a graduated fee basis, thus eliminating all free clinics for the poor and providing that only the actual indigent shall be cared for by the county.

40. **Adjournment.**—There being no further business the meeting adjourned.

O. D. Hamlin, *Chairman.*
Emma W. Pope, *Secretary.*

COMPONENT COUNTY MEDICAL SOCIETIES

CONTRA COSTA COUNTY

The October meeting of the Contra Costa County Medical Society was held on Tuesday evening, October 11, at the Hotel Carquinez, Richmond. Dr. S. N. Weil of Rodeo presided.

The president requested Doctor Weil to introduce Dr. C. L. Abbott, to whom the evening was dedicated, inviting him to preside during the presentation of the scientific papers.

Doctor Abbott called upon Dr. Harry Ford to introdue his special guest, Dr. William Powell, former army officer, who is a candidate for the position of health officer of Contra Costa County.

The scientific program was a symposium on *Hypertension* by three members of the staff of Merritt Hospital, Oakland, of which staff Doctor Abbott is also a member.

Dr. A. A. Alexander opened the series of papers with *Modern Conceptions of Hypertension,* which was most ably prepared and presented.

Dr. George Reinle, president-elect of the California Medical Association, gave a fascinating and logical picture of *Kidney Hazards in Surgery.*

Dr. Robert A. Glenn concluded the papers with *Interpretation of Kidney Function Tests.* In this he reviewed much that is familiar, very much that is recent and less known, correlated the laboratory tests and, in conclusion, stressed the tests that are of greatest value.

Before the discussions were opened Doctor Shute, president of the staff of Merritt Hospital, was introduced. He invited members of the profession to attend meetings of their staff, which are held on the evening of the first Monday of each month.

Doctor Weil resumed the chair and conducted the discussions. Dr. W. E. Cunningham of Richmond and Dr. H. U. Rowell of Oakland discussed the first paper; Dr. E. R. Guinan of Richmond and Dr. Whitfield Crane the second, and Dr. J. W. Bumgarner of Richmond and Dr. Greer of Oakland the third, the author of each paper closing.

Reading of communications was dispensed with, and all correspondence was placed on file with the secretary, with the sanction of the president. The application for membership of Dr. John G. Crafts of Brentwood was referred to the Board of Censors.

Doctor Weil announced that the November meeting will be held jointly with the Woman's Auxiliary. Films which will be of interest to both organizations will replace the usual papers.

The meeting was one of the best attended of the year, and the spirit of interest and enthusiasm was most gratifying.

Doctor Abbott introduced the speakers of the evening so graciously that a feeling of friendliness was engendered which helped greatly to make the evening a success. And as each man responded he paid a tribute to the guest of honor, showing the high esteem in which Doctor Abbott is held by his co-workers at Merritt Hospital.

There were thirty-five members and guests present: Doctors C. L. Abbott, A. A. Alexander, George Reinle, Robert Glenn, H. U. Rowell, Whitfield Crane, Koford, Benton, William Sargent, Shute, Greer, Eldridge, William Rowell, Sweetser, William Powell, Beard, Guinan, Carpenter, Vestal, Daily, McCullough, J. W. Bumgarner, G. W. Bumgarner, Channel, J. B. Spalding, Clara H. Spalding, S. N. Weil, H. G. Ford, Rosa Powell, Marguerite Keser, W. E. Cunningham, C. R. Blake, L. H. Fraser, R. J. P. Harmon, and Abbott Hedges.

The meeting was adjourned at 11 o'clock, after which a buffet luncheon was enjoyed.

Clara H. Spalding, *Secretary.*

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FRESNO COUNTY

The meeting of the Fresno County Medical Society was held at the Fresno General Hospital at 8 p. m. on October 4.

Mrs. Ray Wakefield was given an opportunity to present an appeal for the support of the Community Chest drive. Mrs. Wakefield asked that the medical profession coöperate as much as possible with their time, attention and understanding, and that they meet the appeal with an open-mindedness that will give results. She stressed the vast importance of the work this year, due to the present condition of things.

Applications for membership were presented by the following: Doctors William H. Gilliatt of Coalinga, Marvin H. Moore of Fresno, and Walter N. Levin of Fresno County General Hospital.

A letter from Dr. J. C. Drake of Kerman, regarding the handling of physicians fees for automobile accidents, especially by the insurance companies, was read and referred to the committee on economics.

Dr. E. R. Scarboro spoke briefly about having had a conversation with the Fresno County Health Officer, Dr. James E. Pendergrass, in regard to the *formation of a free tuberculosis clinic for the examination of school children in the county,* and in response to this conversation Doctor Scarboro presented the following statement:

"Doctor Pendergrass asked me to bring this subject before you. On first thought I was somewhat favorable to it, but after considering, I am very much opposed to it. I believe that our health officers' duties should be just what the name implies—health officers, whose duties are primarily and solely police duty. Upon them should rest the responsibility of the establishment of quarantines, control of the epidemics, establishment of bureaus for the control of public health measures, and information both to the layman and profession. The general tendency of the publicly paid official is to enlarge his scope, broadening into fields which are not justly within his province. While the ambition is a laudable one, it is encroaching even more on the ever-narrowing field of the practice of medicine. The general tendency of the state to feed, clothe, house, and provide medical service is only too eagerly grasped by parents who are glad to have the state assume these responsibilities. I believe that parents still have some responsibilities and obligations to their children, and the sloughing of these responsibilities and obligations is largely responsible for the lack of respect which modern youth shows to its parents. I believe that the establishment of such free diagnostic clinics are detrimental to the interests of the medical profession and of very questionable value to the public which it proposes to serve, and tends to still further pauperize parent and child. It is only a short time until in its ultimate it means the loss of all personal responsibility and sense of obligation to self and society."

Dr. A. T. Goldberg made a motion that the Fresno County Medical Society oppose the formation of any new clinics for the examination of school children and that they deem the present facilities sufficient to care for the problem. Seconded by Dr. C. O. Mitchell.

Dr. J. M. Frawley moved an amendment to the above motion to provide social service examination of the patient first and referred to the County General Hospital for check-up examination. Lost for want of a second. The original motion was carried.

Dr. A. E. Anderson moved that the resolution presented by Dr. E. R. Scarboro be sent to Dr. James E. Pendergrass, the county health officer, as an expression of the society and given out for publication if deemed necessary. Seconded by Dr. W. E. R. Schottstaedt. Motion carried.

Dr. A. E. Anderson gave a short discussion on the present situation in regard to *Free Hospitalization;* this was supplemented by the following written report presented by the president, Dr. E. R. Scarboro.

"To the Members of the Fresno County Medical Society:—I would like to invite your attention to the recent article in the September issue of California and Western Medicine by Mr. John M. Peirce of Los Angeles.

"I shall not try to brief the article for you, but desire to call your attention to two facts: First, the average percentage of hospitalization tax-supported is 49.06 per cent; for Fresno County, 68.19 per cent. Glancing over the table shows that in some cities it is even higher. It is not even sensible to assume that 68 per cent of the residents of this community who require hospitalization are paupers and indigents. Included in the remaining 32 per cent are all industrial and contract cases. Of this group approximately half or even less, perhaps, have made any attempt to meet their obligations to the doctors, and you have the appalling fact that the medical profession is making its living on 16 per cent, more or less, of the people whom it serves. Add to this the fact that every veteran of the war, regardless of his social status, is entitled to medical care at federal tax-supported institutions.

"Large charity organizations and welfare departments through paid lay assistants, working frequently for reputations, have assumed control of medical charities and dictate to us, who serve gratis, how much we must do. These organizations frequently lose sight of or ignore the fact that it is the medical services, rendered usually gratis by physicians, which justifies the existence of these organizations. I do not wish to be misunderstood or misquoted. The medical profession has always gladly given its services where they are needed and expect to continue to do so. But there is no more reason why the physician should be expected to give his services wholesale than that the grocer, the clothier, the butcher, or others should be expected to donate his goods. Ask the carpenter, bricklayer, plasterer, plumber, or other tradesmen to go out and donate 68 per cent of his time to building homes for people who need them.

"This is not only a social but an economic problem. The medical profession cannot keep increasing the scope of its charity work and exist. There must be either a revision or state medicine ultimately. I offer no panacea, but a suggestion. The medical society must assume more interest in these organizations, particularly in their administration. To this end I would like to suggest that our society instruct its Economics Committee to confer with the supervisors and the welfare department for a complete readjustment of the Fresno County medical charity organization. It is suggested that under present economic conditions a scale, fair in 1922, is grossly unfair at present and a more close supervision of admissions must be made.

"In general, two groups of thought exist regarding our General Hospital: One, that it should remain as it is; the other, that it should have a minimum-sized, fully paid staff. Either of these carried to its fullest efficiency may be an evil. The staff group may increase its services and clinics until it becomes excessively attractive and is imposed upon. A fully paid staff may lead to a political favoritism and the wide-open policy that exists in some of the other counties and become even more odious than the former. Between these two lies a middle plan in which the organization and scheme of the hospital is sound and good; but all unnecessary impositions upon the General Hospital could and can be stopped if those in authority have any desire to stop them."

Dr. R. B. Tupper moved that the chairman appoint a committee to investigate the situation and meet with the Board of Supervisors to try and work out a plan to meet it. Seconded by Dr. Neil Dau. Motion carried. The chairman referred this to the Committee on Economics, offering his support.

Doctor Hare moved that the chairman and Dr. A. E. Anderson select as many as desired to act with them on this committee. Seconded by Doctor Frawley. Motion lost.

Following this lengthy business session Dr. Edward S. Blaine of Los Angeles gave a wonderful demonstration of lantern slides to illustrate his subject, *Lesions of the Alimentary Tract, Roentgenologically Considered.* Doctor Blaine presented his subject in a very pleasing manner with a comprehensive selection of slides.

Elmer J. Schmidt, *Secretary.*

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MENDOCINO COUNTY

After a long somnolence, the Mendocino County Medical Society awakened and held its first regular meeting in three years on September 28. A banquet was served at the Hotel Van in Willits at 6:30 p. m., followed by the meeting.

Six regular members, six eligible nonmembers, and one guest were present.

Dr. Henry S. Rogers, our district councilor, was unable to attend.

Dr. R. A. Babcock was elected president and Paul J. Bowman, secretary-treasurer for 1933.

Doctors R. A. Cushman and Royal Scudder were elected delegate and alternate, respectively, to the California Medical Association for the next annual session at Del Monte, April 24-27, 1933.

The six eligible nonmembers present, all of whom will join the county society January 1, 1933, were Doctors Olga Miller, Eugene H. Benson, E. M. Hummel, George Scott Wrinkle, all of Talmage; Robert B. Smalley of Willits and H. O. Cleland of Ukiah.

Dr. R. A. Cushman's transfer from Orange County was unanimously accepted. He has been one of the councilors-at-large of the California Medical Association and just returned from a meeting of the councilors in Los Angeles. He very clearly presented the latest proposed plans for the medical care of the individual in the low and medium income class.

Our guest, Mrs. R. A. Cushman, urged the organization of a woman's auxiliary by our society.

There was considerable discussion concerning the present county organization for the care of indigents but no recommendations were passed.

Paul Bowman, *Secretary.*

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ORANGE COUNTY

The regular monthly meeting of the Orange County Medical Association was held on Tuesday, October 4, at eight o'clock at Ketner's Café, Santa Ana. The society was very fortunate in obtaining a program sponsored by the Cancer Commission of the California Medical Association. A symposium on cancer of the urinary tract was given. This was headed by Dr. Orville N. Meland, secretary of the Commission for Southern California. Introduction of the following was made by Dr. D. A. Harwood of Santa Ana.

Accomplishments of the Cancer Commission—Orville N. Meland, M. D., Los Angeles.

Diagnosis and Treatment of the Neoplasms of the Urinary Tract—Wilbur B. Parker, M. D., Los Angeles.

Pathology of Urinary Tract Tumors—A. L. Lindberg, M. D., Los Angeles.

Radiations in Tumors of the Urinary Tract—William E. Costolow, M. D., Los Angeles.

All of these papers covered the subject in a most comprehensive manner and were greatly appreciated by every member present.

The business meeting of the society was then held. A short progress report was made by Dr. H. A. Johnston, chairman of the Committee on Executive Legislation. The obituary of Dr. Daniel LeRoy Burgeson, a former member of the Orange County Medical Association, was read by Dr. C. D. Ball, chairman of the Committee on History and Obituaries. Doctor Burgeson was killed in an ambulance accident in Los Angeles on September 11. The secretary was ordered to spread a copy of this obituary on the minutes of the Orange County Association. A letter from the Saint Joseph Hospital of Orange, inviting the society to hold its next meeting at the hospital, was read by the secretary. It was moved, seconded and unanimously carried that this kind invitation from the Sisters be accepted.

The final readings on the applications of Dr. Carl R. Jackson of Costa Mesa and Dr. Newell L. Moore of Santa Ana were made, and, by ballot, they were unanimously elected to membership.

Following adjournment, a buffet lunch was served.

Harry G. Huffman, *Secretary.*

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PLACER COUNTY

The Placer County Medical Society held its October meeting at the Women's Improvement Club at Roseville on the evening of October 8, with President Robert H. Eveleth in the chair. In addition to the president there were the following members and visitors:

Members—Doctors L. B. Barnes, Paul D. Barnes, A. W. McArthur, D. M. Kindopp, B. Woodbridge, S. S. Kalman, Max Dunievitz, C. C. Briner, Monica Stoy Briner, Louis E. Jones, Mildred E. Thoren, and Robert A. Peers.

Visitors—Doctors Chauncey D. Leake and Alfred C. Reed of San Francisco, Dr. Lucas W. Empey of Roseville, and Doctors F. E. McCullough and E. W. Beach of Sacramento.

The application for transfer of Lucas W. Empey from membership in the Santa Clara County Medical Society to the Placer County Medical Society was read. Upon it appeared that Doctor Empey's membership was endorsed by the California Medical Association. He was admitted to membership in the Placer County Medical Society.

Doctor Thoren of Weimar was appointed by the chair to draft resolutions on the death of the late past president, Dr. Charles J. Durand.

The secretary then read the agreement which was entered into between the Placer County members of the Placer County Medical Society and the Board of Supervisors relative to the *Admission of Patients to the New Placer County Hospital.* It was moved by Doctor Fay, seconded by Dr. C. C. Briner and unanimously carried that the agreement be approved.

Following the reading of communications, Doctor Thoren issued an invitation to the members to hold the November annual meeting at Weimar, which invitation was accepted.

There being no further business the president called upon Dr. Chauncey D. Leake, professor of pharmacology of the University of California Medical School, who addressed the members of the society on the subject ***Sleep and Anesthesia.***

Doctor Leake prefaced his remarks with a review of the theories of sleep. He discussed briefly the significance of muscular relaxation in predisposing toward sleep as indicated by Kleitman's work. He touched upon the effects of increased nervous tension of modern times and illustrated the recuperative value of sleep in relation to nervous exhaustion. The doctor also took up central nervous-system depression and illustrated his remarks by discussing the types of chemicals which cause central nervous-system depression. He also outlined the properties of an ideal hypnotic agent, taking up in detail the influence of certain specific drugs. Doctor Leake also discussed the mechanism of anesthesia and the relation of preanesthetic hypnosis to anesthesia.

Following Doctor Leake's address, Dr. Alfred C. Reed, professor of tropical medicine, of the University of California, addressed the society on ***Amebiasis and Its Treatment.***

He defined amebiasis as meaning human infestation with ***Endameba histolytica.*** The doctor quoted authorities and statistics indicating that amebiasis, far from being a rare condition, is present in California to an approximate average of 10 per cent of the population. He stated that diagnosis rests upon a competent identification of the ameba under the microscope and illustrated how such identification could be made and some of the pitfalls in the path of those not familiar with the parasite. Doctor Reed stressed the fact that the natural history of this parasite makes its presence always a potential if not an actual danger to the host and invariably a danger to other persons; therefore amebiasis should invariably be treated. This, he stated, is particularly true now that newer methods of treatment have removed some of the dangers which existed when our main reliance was placed upon emetin and similar drugs. He pointed out the dangers of these drugs, particularly that of emetin, when not used with caution. Doctor Reed also took up the newer drugs, such as carbarsone, and showed how they were particularly valuable because of their low toxicity and high degree of effectiveness, which, added to the low costs, made such drugs a great advantage over previous therapeutic measures.

Doctor Reed's paper was discussed by Doctor Barnes of Loomis and Doctor Leake.

Following the presentation of his address Doctor Reed presented many charts which illustrated the points which he had brought out.

At the close of the meeting, refreshments were served by the local members.

Robert A. Peers, *Secretary.*

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SAN BERNARDINO COUNTY

The regular annual meeting of the San Bernardino County Medical Society was held at the Casa Loma Hotel, in Redlands, on Tuesday, October 4, at 7 p. m., seventy-three members being in attendance.

Applications for membership of Doctors Denton, Moreland, and Baird were approved.

The report of the Committee on Revision of the Constitution and By-Laws was read. Their recommendations are as follows:

Constitution—Article 4. Delegates to the state society shall be elected for a term of one year.

Article 4. Section 1. The Board of Councilors of the San Bernardino County Medical Society shall nominate a ticket containing a name for each office to be filled, and the names of the nominees with the titles of the office for which they are respectively nominated shall be printed in the official program for the first meeting in April. If there are no nominations properly seconded at this meeting or at the May meeting by any member of the society, the ticket as printed shall be declared elected at the regular meeting.

Section 2. Any member properly seconded, and with the consent of his candidate, may nominate his candidate for office at the meeting in April or May. This section must be published in the official program at the time of the publication of the nominations of the Board of Councilors.

By-Laws—Article 3. The secretary-treasurer shall pay all bills approved by the Board of Councilors, which shall be audited monthly. He shall have charge of the funds of the society.

Article 4. The trustees shall make an annual report of the financial and general status of the society at the October meeting. (This last to be dropped from the by-laws.)

Following this report the new officers were introduced and the president was inducted into office. The new officers are as follows: President, Fred Moor of Loma Linda; first vice-president, C. L. Emmons of Ontaria; second vice-president, E. H. Hull of San Bernardino; secretary-treasurer, E. J. Eytinge of Redlands. Delegates: G. S. Landon of San Bernardino; C. L. Emmons of Ontario and H. G. Hill of Redlands. Alternates: A. T. Gage of Redlands, C. F. Whitmer of Colton, and S. B. Richards of San Bernardino.

The report of the secretary-treasurer for the year 1931-1932 was then given.

The address of the retiring president, Dr. George Landon, was then given.

A résumé of the work of the Medical Advisory Board of the County Hospital was given by Dr. Philip Savage, and a résumé of the first year's work of the County Health Unit was given by Dr. E. B. Godfrey.

Twenty-five to thirty guests then arrived to attend the conclusion of the program, which was a motion picture entitled "The Cruise of the Valerie III to the South Seas." This picture was shown by Dr. E. O. Palmer of Hollywood, who was the attending physician on this trip. The meeting adjourned at 10:45 p. m., after a vote of thanks had been extended to Doctor Palmer.

E. J. Eytinge, *Secretary.*

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SAN JOAQUIN COUNTY

The regular meeting of the San Joaquin County Medical Society was held June 2 at the country home of Dr. Barton J. Powell, Sr., on the Country Club Boulevard. The guests arrived at all hours, beginning in the early afternoon to enjoy swimming, boating, and games. At 7 p. m. thirty-seven members and guests sat down to a Dutch-treat Italian dinner. A short address of welcome was made by Dr. Powell as host.

Dr. Fred DeLappe, councilor for the fourth district, spoke on current topics of interest to the medical profession. A musical program was given by Caesar Gaia and Lawrence Rozzona on accordions.

The principal address of the evening was given by Dr. John Homer Woolsey of San Francisco. He spoke at length on the ***Life of Sir James Paget,*** 1814-1899. He illustrated his talk with a large diagram, showing the important life events of the doctor and paralleled with outstanding historical happenings. A collection of pictures was passed through the audience, showing Doctor Paget and many things connected with his career. Doctors Sanderson and McGurk, extended the thanks and appreciation of the local society to Doctor Woolsey.

* * *

A stated meeting of the San Joaquin County Medical Society was held Thursday evening, September 1, at 8:30 o'clock, in the Medico-Dental clubrooms, 242 North Sutter Street, Stockton. The meeting was called to order by Dr. George H. Sanderson.

The president read a communication from the secretary of the California Medical Association submitting a questionnaire relative to medical economics. After some discussion, it was moved by Doctor Chapman, seconded by Doctor Vischi, that a questionnaire be prepared and submitted to the individual members to determine the answers in question. This was carried unanimously.

President Sanderson made a short address on the subject of *Prescription Writing,* suggesting that patients are paying too much for their prescriptions because so many proprietary mixtures are prescribed by physicians. These if compounded by the local druggist would prove just as efficacious and cost very much less.

The first paper of the evening was entitled *Bleeding in Obstetrical Cases,* given by Dr. Henry A. Stephenson of Stanford Medical College. He dealt with the subjects very systematically and exhaustively, talking from a carefully prepared diagram, showing the causes of hemorrage in general, and those during different stages of pregnancy. The subject was discussed at length, being led by Doctors Gallegos, O'Donnell, and Lynch.

Under the heading of *Gynecological Problems,* Dr. Frank W. Lynch of the University of California chose to present his findings in 375 cervical cancers. He presented a long list of statistics to show the results and stated that he found that it is not safe to presume that a patient is cured even though he has shown no further signs or symptoms up to five years.

There being no further business the meeting was adjourned and refreshments served.

C. A. Broaddus, *Secretary.*

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SANTA BARBARA COUNTY

The regular meeting of the Santa Barbara County Medical Society was held in the Bissell Auditorium of the Cottage Hospital on October 10, with Doctor Koefod presiding.

The first paper of the evening was by Dr. Ray Carter, roentgenologist of Los Angeles County General Hospital, who gave an extremely interesting and instructive paper on *Coccidioidal Granuloma,* illustrated with lantern slides. The paper was discussed by Doctors Childrey, Ullmann, Geyman, and Evans.

Doctor Nagelmann of Santa Barbara then gave a short talk on *Flat Feet,* demonstrating his point with photographs. Doctor Atsatt discussed Doctor Nagelmann's article.

The meeting then went into executive session. Doctor Brown explained his reasons for advocating the formation of a health district. Doctor Henderson spoke on the report presented by the Public Relations Committee regarding the formation of the district. This was discussed by Doctors Ullmann, Freidell, Spaulding, Stevens, and Brown.

Doctor Ullmann then moved, seconded by Doctor Brown, that a committee of five be appointed by the president at the proper time to carry on any further education of the people as to a health amalgamation plan in the county, the committee to represent the society, and all talks or articles for the press, dealing with the subject, first shall be censored by the Publicity Committee. Doctor Freidell then gave a report of the Publicity Committee, which was adopted and a copy of which is hereto attached.

A communication from a librarian of the State Medical Library was read and ordered referred to the Program Committee. A communication from the secretary regarding the ownership of roentgen films was read and ordered filed.

The secretary then read an amendment to the constitution, as proposed by the Constitution and By-Laws Committee, as follows:

Article II. Section 5. Associate Members. Any physicians holding the positions of house doctor or intern in the recognized hospitals of Santa Barbara County shall be *ipso facto* an associate member of this society, and shall have the privilege of attending meetings and participating in the scientific work of this society, but shall not be required to pay dues nor shall he have the privilege of voting or holding office in this society.

The application of Dr. Edmund Crowley of Santa Maria was read and, upon balloting, he was unanimously elected into the society.

Doctor Ullmann made the following motion: That the Public Relations Committee be instructed to investigate the subject of medical insurance and draw up a plan to be submitted to the society for approval.

William H. Eaton, *Secretary.*

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SISKIYOU COUNTY

The Siskiyou County Medical Society met at the McCloud Hospital, McCloud, on Sunday, September 25. The guest speakers were Dr. Frank McCullough of Sacramento, who talked on *Anorectal Fistulae,* and Dr. J. L. Fanning, also of Sacramento, who read a paper on *Dermal Mycoses.* Dinner at the McCloud cafeteria followed the meeting. The members present were: Doctors McCann, Runckle, and Dickenson of McCloud, Doctor Vidricksen of Weed, and Dr. W. E. Hart of Yreka. The guests other than the speakers were Doctors Steele and Campbell of Dunsmuir.

W. E. Hart, *Secretary.*

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SONOMA COUNTY

The Sonoma County Medical Society held its October meeting at the Cotati Inn, Cotati, October 13. Twenty members and guests were present.

The usual business was transacted, and Dr. H. C. Shepardson of San Francisco gave us a very able address upon the subject of *Diabetes Mellitus* and its modern treatment, with special stress on diabetic coma.

The application for membership in the county society of Dr. Leon Lewis of Eldridge, in due form and properly recommended by Doctors F. O. Butler and Henrietta Frederickson, both of Eldridge, was received.

W. C. Shipley, *Secretary.*

⁂

VENTURA COUNTY

The Ventura County Medical Society meeting was held at 8 p. m., September 13, at the Clinic Building, Ventura County Hospital, Dr. Sterling Clark presiding.

Members present—Doctors Charles Smolt, Sterling Clark, Illick, Felberbaum, Foskett, Shore, Armitstead, Hendricks, Groff, Welsh, Mosher, Jones, Strong, D. G. Clark, Homer, Rey, and Francis.

Doctor Glaser of Los Angeles presented slides and gave an interesting discussion of *Trigeminal Neuralgia* and other neurological conditions.

It was decided to appeal to the State Medical Association in the question of new x-ray fees paid by insurance companies in industrial accident cases.

Artemas Strong, *Secretary.*

* * *

The Ventura County Medical Society meeting was held at 8 p. m., October 11, at the Clinic Building, Ventura County Hospital, Dr. W. S. Clark presiding.

Members present—Doctors W. S. Clark, D. G. Clark, Felberbaum, Hendrick, Mosher, Welsh, Lillian P. Smolt, C. A. Smolt, Groff, Illick, Shore, Homer, Kendall, and Yoakum. Guests—Doctors Dan Clark and Ullmann of Santa Barbara.

An interesting and instructing symposium on *Gastric Cancer* was presented by the Cancer Commission team of Doctors Orville N. Meland, H. D. Van Fleet, Henry Snure, George D. Maner, and E. C. Moore of Los Angeles.

D. G. Clark, *Acting Secretary.*

CHANGES IN MEMBERSHIPS

New Members (32)

Alameda County—Bean Mark Palmer, Samuel A. Twain.

Fresno County—Victor E. Campbell.

Los Angeles County—

Samuel V. Abraham
Walter Frank Arnold
Cornelius Oliver Bailey
Albert K. Baldwin
Ashby Eddleston Carter
Jesse D. Cook
Edward Harrison Crane
H. A. Erickson
V. C. Francis
Mary Lesley Fraser
William P. Garrison
Charles H. Gowan
Samuel Hirshfeld
George P. Landegger
Lester Duke Mannah
Walter D. Martin
Webster Leonard Marxer
Irving Leroy Ress
Lester Brooks Rogers
John B. Todd
Howard Asa Wood

Orange County—Carl Raymond Jackson.

San Francisco County—Richard B. Jones, Willard M. Meininger, Harold Herbert Rosenblum, William M. Weiner.

San Mateo County—Robert Fisher Monteith.

Santa Barbara County—Milton V. Duncan.

Santa Clara County—Joseph Bernard Josephson.

Transfers (2)

Gordon R. Howard, from Fresno to Los Angeles County.

Newell L. Moore, from Santa Clara to Orange County.

In Memoriam

Brenner, Charles Raymond. Died in San Diego, September 17, 1932, age 45 years. Graduate of Jefferson Medical College of Philadelphia, Pennsylvania, 1914. Licensed in California, 1921. Doctor Brenner was a member of the San Diego County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

✣

Brown, Page. Died in Los Angeles, September 29, 1932, age 77 years. Graduate of Jefferson Medical College of Philadelphia, Pennsylvania, 1879. Licensed in California, 1884. Doctor Brown was a member of the Los Angeles County Medical Association, the California Medical Association, and the American Medical Association.

✣

Curtiss, Charles Lester. Died in Redlands, September 27, 1932, age 54 years. Graduate of Yale University School of Medicine, New Haven, Connecticut, 1903. Licensed in California, 1916. Doctor Curtiss was a member of the San Bernardino County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

✣

Fraser, Alexander Isaac. Died in Bakersfield, October 6, 1932, age 64 years. Graduate of the University of Southern California School of Medicine, Los Angeles, 1897. Licensed in California, 1898. Doctor Fraser was a member of the Kern County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

✣

Hammond, Robert Ray. Died in Stockton, October 3, 1932, age 58 years. Graduate of Cooper Medical College, San Francisco, 1897. Licensed in California, 1898. Doctor Hammond was a member of the San Joaquin County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

Mishkin, Jacob. Died in Los Angeles, September 19, 1932. Graduate of Medico-Chirurgical College of Philadelphia, Pennsylvania, 1895. Licensed in California, 1927. Doctor Mishkin was a member of the Los Angeles County Medical Association, the California Medical Association, and the American Medical Association.

✣

Stevens, Burt Smith. Died in San Francisco, October 7, 1932, age 58 years. Graduate of Northwestern University Medical School, Chicago, 1908. Licensed in California, 1911. Doctor Stevens was a member of the San Francisco County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

OBITUARIES

Charles Lester Curtiss

1878-1932

Dr. Charles L. Curtiss, a member of the State Board of Councilors from 1923 to 1929, passed away in Redlands on September 17, 1932.

Doctor Curtiss was born in New Haven, Connecticut, on March 15, 1878, and received his early schooling in the public schools of that city, from which he passed to Sheffield Scientific for his premedical training. He graduated in medicine from Yale Medical School in 1903.

The early years of his practice were spent in Manchester, New Hampshire, where he was on the internal medicine staff in Elliott Hospital for many years previous to coming to California in 1916. He soon regained his health, which had been impaired by the severe New England winters, and entered into practice in Redlands, where he lived until his death.

Doctor Curtiss served faithfully as secretary and as president of his county society, and for two terms on the Board of Councilors of the California Medical Association.

His unfailing good nature and cheery disposition endeared him to all with whom he came in contact, both as a colleague and as a medical adviser. Though his interest in medical matters was always keen, he found the time to enter into the social and civic life of the community as well. His memory will long linger among those who were privileged to be his friends.

C. G. Hilliard.

✣

Daniel Leroy Burgeson

1893-1932

Daniel Burgeson was born on April 12, 1893, at Wayne, Nebraska. He was the son of S. D. and Lillie (Downey) Burgeson. After graduation from Berrien Springs College, Michigan, in 1914, he entered the College of Medical Evangelists, California, and received his degree of doctor of medicine in 1918. Doctor Burgeson interned in the White Memorial Hospital for a year, 1918; and later in the Boulder Sanitarium of Boulder, Colorado, and was the medical superintendent of the Nebraska Sanitarium at Hastings, Nebraska, for two years.

After returning to California, Doctor Burgeson located in La Habra, where he practiced for several years, and at one time had a branch office in Anaheim. He was the medical superintendent of the Loma Linda Sanitarium in 1929-1930.

At the time of his death, September 11, 1932, he was police surgeon at Los Angeles. He was killed in line of duty, traveling in a police ambulance which collided with another police ambulance.

Doctor Burgeson joined the California Medical Association in 1927. His faithful work in his profession must not be forgotten.

* * *

Robert Ray Hammond

1874-1932

Dr. Robert Ray Hammond of Stockton has passed away, and his many friends and grateful patients are inconsolable. He was a true martyr to his sense of duty.

Doctor Hammond served in the Spanish-American War and when the World War came in 1914, though he was no longer fitted for active duty by reason of his age and sedentary pursuits, he volunteered for service. He was a victim of the system that compelled these elderly members of a learned profession to conform to the strenuous training of field troops. During the forced training he experienced cardiac pain and, in subsequent years, while endeavoring to regain the practice lost during the period of his service, he had repeated attacks of angina pectoris.

His passing was such as he would have desired. While taking the temperature of a patient, in the act of extending the thermometer to the sufferer, the summons came.

He gave his country his best, and though he realized that he was doomed, made no application for a pension, so great was his patriotic sense of duty.

Albert B. McKee.

THE WOMAN'S AUXILIARY TO THE CALIFORNIA MEDICAL ASSOCIATION*

Meeting of the State Board of Woman's Auxiliary

The state board of the Woman's Auxiliary to the State Medical Association met in Santa Barbara on October 24, Mrs. Frank Edwin Coulter presiding. Eleven board members from seven towns were present, also several county presidents and treasurers.

Mrs. Dewey Powell of Stockton was appointed chairman of *Hygeia*. It was decided to have the essay contest again, the subject to be, "The Doctor's Dilemma."

Mrs. Coulter is very enthusiastic about the state scrap book. It is her desire to have it entered in competition at the American Medical Association meeting in Milwaukee next May.

The next state board meeting will be held in Los Angeles on February 17, 1933.

Following the business meeting, a tea, which had been arranged by Mrs. Charles Stevens, first vice-president of the State Auxiliary, and Mrs. W. H. Eaton, president of the Santa Barbara Auxiliary, assisted by the Santa Barbara Auxiliary, was served at the El Encanto Hotel, adding a delightful social touch to the meeting.

Mrs. Clifford A. Wright,
Chairman, Press and Publicity.

Death of National President

Mrs. Walter Jackson Freeman, President of the Woman's Auxiliary to the American Medical Association, after three weeks of illness, died in Philadelphia, October 27, 1932. Funeral services were held in Holy Trinity Church in that city Saturday, October 29.

The daughter of a physician, the wife of a physician, the mother of two physicians, the life and interests of Mrs. Freeman were peculiarly closely allied to the medical profession. Her father was the late Dr. William Williams Keen of Philadelphia.

The Woman's Auxiliary to the American Medical Association has lost an inspiring and able leader, the medical profession an understanding and devoted friend.

* * *

Excerpts from National President's Message

A message from Mrs. Freeman to all auxiliary women: "Records lead me to another thought in regard to auxiliary reports in state medical journals. May I offer a suggestion? It is entirely proper to publish the names of new officers and committee chairmen, but it is distinctly disappointing to read only that Mrs. John Jones reported for the Public Health Committee and Mrs. Samuel Smith for Public Relations, and to find all the rest of the valuable space—that costs the medical society good hard cash—devoted to social trivialities. Cannot we safely assume that Mrs. Thomas Townsend was a gracious hostess, that the ribbons matched the flowers, that there was no salt in the ice cream, and that piano, voice and violin were in tune? The state journals are so generous in the space they give the auxiliaries, that I do feel we ought to report the work planned and actually accomplished by Mrs. Jones and Mrs. Smith and their committees instead of stressing food and decorations and musical programs. Reports of committee work are bound to be full of helpful suggestions for other auxiliaries, and in the last analysis we are organized for a serious purpose and are interested in each other's progress toward the goal."

"Delaware holds first place in this month's news with a unique undertaking. This state boasts among its honored citizens Miss Emily F. Dissell, president of the Anti-Tuberculosis Society and originator of the Christmas seals. (Do you know that these seals are now eagerly sought by collectors, and that there is only one complete file of the twenty-five in existence?) Mrs. Tomlinson, president of the Delaware auxiliary and national vice-president, conceived the brilliant idea of enlisting the Anti-Tuberculosis Society in the campaign for periodic health examination, that goal dear to the medical heart, chief ally in the fight against the white plague. A program for health examination is now in progress more thorough and intensive than any hitherto known. Beside the Delaware auxiliary, it includes five other state organizations, and there have already been distributed 16 billboard posters; 12 "talkies"; 7 movies; 180 street-car posters; to doctors, 100 Koch's translations; to teachers, press and doctors, 1000 Koch's announcements; newspaper articles totaling 432 inches; 30 newspaper stories; 2 radio talks; 39 addresses by physicians and other qualified persons before schools and clubs; 27 special school periods; 617 personal letters; and 49,050 leaflets, 'Go to Your Doctor,' the man who understands you and can best judge of your condition. Distribution has been made through forty-five channels—gas and electric bills, banks, theaters, movies, clubs, schools, libraries, the university, and various men's and women's organizations. The work is being done by the Anti-Tuberculosis Society, which also pays the bills, but the moving spirit is one of our most highly valued auxiliary members, Mrs. Robert W. Tomlinson. This campaign ranks with the Minnesota High School Radio Contests as an ideal exponent of the method of working through other organizations, the auxiliary suggesting and guiding the work as approved by the medical societies. Please page all public relations chairman, auxiliary, and medical society alike!"

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* As county auxiliaries to the Woman's Auxiliary to the California Medical Association are formed, the names of their officers should be forwarded to Mrs. Clifford A. Wright, chairman of the Publicity and Publications Committee, 454 South Irving Boulevard, Los Angeles. Brief reports of county auxiliary meetings will be welcomed by Mrs. Wright and must be sent to her before publication takes place in this column. For lists of state and county officers, see advertising page 6. The Council of the California Medical Association has instructed the editors to allocate one page in every issue for Woman's Auxiliary notes.

Component County Auxiliaries

Alameda County.—The Woman's Auxiliary to the Alameda County Medical Association met in regular session September 16 at the Woman's Athletic Club. The guests of the auxiliary were the presidents of the various clubs about the East Bay, the honor guest being Mrs. Annie Little Barry, president of the Federation of State Clubs.

A very interesting program was arranged by the president, Mrs. Thomas J. Clark, with Dr. Joseph Catton of San Francisco as speaker of the day. His subject was "Mental Hygiene in Adolescence."

The auxiliary is planning a dinner in October to which the husbands of the members will be invited.

* * *

Los Angeles.—The regular meeting of the Woman's Auxiliary of Los Angeles County was held in Los Angeles on Thursday afternoon, October 20, at 2:30 o'clock in Severance Hall, 940 South Figueroa Street. Mr. S. K. Cochems, who is engaged in public relations work for the Los Angeles County Medical Association, was the speaker.

Mrs. John V. Barrow gave five minutes to current events in medicine.

The hostesses were from San Fernando and Santa Monica. Tea was served at four o'clock.

* * *

Orange County.—On October 4 the Woman's Auxiliary to the Orange County Medical Association held its first meeting for the fall at the home of Mrs. R. P. Yeagle.

The meeting was called to order by Mrs. Ball. The roll was called and the minutes read. No mention was made in the previous minutes that Mrs. Coulter was assisted by the Girl Reserves in preparing for the program. The treasurer's report, reports of the flower committee and an inspiring letter to the county presidents from Mrs. Coulter were read.

A request for names of prospective speakers was made by the Speakers' Bureau, composed of Mrs. Sutherland, Mrs. Newkirk, and Mrs. Maroon.

Mrs. Coulter attended the state board meeting, and reported that our constitution had been accepted. She related the value of having a scrap book, and delighted this organization with the news that she has one already for presentation to this auxiliary. Mrs. Coulter told of the advantages of having a state year book.

Dr. E. L. Russell of Orange County Health Department gave a splendid talk on child guidance. He told of the Child-Guidance Clinic at work in Orange County.

The budgets for doctors' wives were distributed, and it was urged that all keep them up for one year.

After the meeting was adjourned tea was served by the hostesses, Mrs. Yeagle, Mrs. Patterson, and Mrs. Clark.

* * *

Sacramento County.—Members of the Woman's Auxiliary of Sacramento enjoyed the hospitality of Mrs. J. C. Christian at her home in Galt for the September meeting. Following luncheon, served by the hostess and assisted by Mrs. Christian, Mrs. F. M. Scatena made an appeal to the members to support the Sacramento Community Chest drive. Many of the members are serving as lieutenants and several as captains and one is a colonel, on teams. Mrs. J. H. Keemer, president of the Sacramento Garden Club, gave a talk on "Scented Flowers." Later in the afternoon there were tables of bridge, and many enjoyed a plunge in the Christian pool.

* * *

Santa Barbara County.—The regular meeting of the Santa Barbara County Medical Auxiliary was held on Monday evening, September 12, at 8:15 o'clock at the Bissell Memorial Cottage Hospital. Thirteen members were present, Mrs. Eaton presiding.

Mr. R. C. Branion of the County Relief Committee, gave a very interesting talk on conditions as they are and what to expect this winter. He told of how Santa Barbara is taking care of twelve hundred families. The helping of needy doctors' families here was discussed.

Penpoints by different members were read.

NEVADA STATE MEDICAL ASSOCIATION

A. C. OLMSTED, Wells	President
O. HOVENDEN, McGill	President-Elect
J. H. HASTINGS, Pioche	First Vice-President
E. E. HAMER, Carson City	Second Vice-President
HORACE J. BROWN, Reno	Secretary

COMPONENT COUNTY MEDICAL SOCIETIES

WASHOE COUNTY

The Washoe County Medical Society held its regular monthly session, Tuesday, October 11, in the Nevada State Building, Reno. There were twenty-one members present. The minutes of the last meeting were read and approved, likewise various communications.

The secretary read an editorial from the San Francisco *Examiner,* date of October 7, with reference to the necessity of uniform state laws for the regulation of narcotics. The secretary was instructed to write to the chief of the Bureau of Narcotics, Washington, D. C., to obtain the latest information with reference to what the Department of State, the United States Public Health Service, the Bureau of Narcotics, and other bodies representing different states, who have recently been in session, have succeeded in doing with reference to securing uniformity of regulatory laws pertaining to narcotics.

Dr. J. LaRue Robinson presented a patient who had been struck by a steel splinter. The splinter penetrated the right side between the ribs and pointing toward the diaphragm. The splinter was successfully removed by the large electromagnet apparatus which has been perfected by Doctor Robinson.

Following this the society was treated to a splendid *ex tempore* address by Doctor Kinard on the subject of *Goiter—Its Toxicity and Treatment.* Doctor Kinard is a specialist along the subject of goiter, both as regards operative and medicinal treatment, and his talk was most highly instructive and filled with pertinent, practical suggestions as to what to do and what not to do. Especially one point with reference to the periodical feeding of iodin to school children: In schools where this practice is done, many times care has not been taken to determine if the child is already goiterous, which, if such is the case, possibilities were that the feeding of iodin to an already goiterous child would make the child worse.

Following Doctor Kinard's address Dr. Erwin Hund of Reno spoke on the *Uses of the Electrocardiograph,* for the determination and prognosis in many cases of heart disease. Doctor Hund's speech was well illustrated with lantern slides, which formed a valuable scientific adjunct. The paper was well received.

The matter of organizing a woman's medical auxiliary was considered, and the secretary was instructed to write Mrs. Dr. Bart Hood of Reno, pledging the society's aid toward that end.

THOMAS W. BATH, *Secretary.*

Poliomyelitis in Adults.—Limper and her associates report that of 268 poliomyelitis cases in San Francisco in the 1930 epidemic 72 (26.8 per cent) were in persons over 16 years of age. A study was made of the case histories of 60 of these adults. Of the 60, only one was over 40 years old and 34 were between 16 and 25 years of age; 33 were males and 27 females. In course, sequelae and mortality rate (27 per cent) the disease was more severe in these adults than in the children affected in the same epidemic. The deaths among adults accounted for 70 per cent of the total epidemic mortality. Serum therapy seemed far less encouraging in the adults than in children, perhaps because of the later diagnosis in the adult cases.—From the *Journal of Protective Medicine.*

MISCELLANY

Under this department are ordinarily grouped: News; Medical Economics; Correspondence; Twenty-five Years Ago column; Department of Public Health; California Board of Medical Examiners; and other columns as occasion may warrant. Items for the News column must be furnished by the fifteenth of the preceding month. For Book Reviews, see index on the front cover, under Miscellany.

NEWS

Coming Meetings—

American Medical Association, Milwaukee, Wisconsin, June 12-16, 1933, Olin West, M. D., 535 North Dearborn Street, Chicago, Secretary.

California Medical Association, Del Monte, April 24-27, 1933, Emma W. Pope, M. D., 450 Sutter Street, San Francisco, Secretary.

Herzstein Lectures.—Under the provisions of the will of the late Dr. Morris Herzstein, eminent physician of San Francisco, the Herzstein Lectures are held every year or every two years in San Francisco under the auspices of Stanford University and the University of California. The universities take pleasure in announcing that the third course of medical lectures will be given by a well known biochemist, Dr. Philip Anderson Shaffer, professor of biological chemistry at Washington University School of Medicine, St. Louis, Missouri. The lectures will be as follows:

Monday, November 28, 8:15 p.m.—Some Aspects of Carbohydrate Metabolism and Their Bearing on Clinical Problems. San Francisco County Medical Society, 2180 Washington Street.

Wednesday, November 30, 8:15 p. m.—Some Aspects of Carbohydrate Metabolism and Their Bearing on Clinical Problems. San Francisco County Medical Society, 2180 Washington Street.

Friday, December 2, 8:15 p. m.—Some Aspects of Carbohydrate Metabolism and Their Bearing on Clinical Problems. San Francisco County Medical Society, 2180 Washington Street.

Monday, December 5, 8:15 p. m.—Biological Oxidation: How Living Cells Burn Fuels. University of California Extension Division, 540 Powell Street.

Under the general subject, "Some Aspects of Carbohydrate Metabolism and Their Bearing on Clinical Problems," Doctor Shaffer will discuss "Blood Sugar: Its Uses and Regulations," "Insulin and Hypoglycemia," and "Ketosis and Metabolism in Diabetes." These lectures are primarily for the medical profession and medical students although other interested persons are also invited to attend. The lecture on "Biological Oxidation: How Living Cells Burn Fuels" will be a popular lecture.

Doctor Shaffer is a nationally known biochemist who has done much research on the importance of diet and nutrition in the treatment of typhoid fever, on metabolism in diabetes, and on the preparation of insulin. He received his bachelor degree from West Virginia University in 1900, and the Doctor of Philosophy degree from Harvard University in 1904.

The Semi-Annual Alumni Day of the University of California Medical School will be held on Friday, November 18, at the San Francisco Hospital. There will be ward rounds and operations in the morning and lectures in the afternoon. These will be conducted by members of the faculty of the Medical School. Medical School Alumni days are not given up to entertainment, but to study and discussion of the latest advances in medical practice and to repetition of the more common fundamentals. Invitations to this meeting have been sent to all of the graduates of the Medical School, and it is expected that practicing physicians from all parts of the state will attend. Graduates of other medical schools who are interested in the clinics are cordially invited to attend.

California Conference on Child Health.—The California White House Conference on Child Health and Protection has been called by Governor James Rolph, Jr., to meet in San Francisco November 11 and 12. The conference will be under supervision of Dr. Giles S. Porter, Director State Department of Public Health; Vierling Kersey, Director State Department of Education; and Mrs. Rheba Crawford Splivalo, Director State Department of Social Welfare.

Dr. William Palmer Lucas of San Francisco will be chairman of the medical service group. Dr. John J. Sippy of Stockton will be chairman of public health service and administration.

Dr. Robert Gordon Sproul, president of the University of California, has been appointed by Governor Rolph as chairman of the conference. Leland W. Cutler, president of the San Francisco Chamber of Commerce, is chairman of an Advisory Committee whose membership includes representatives of all statewide organizations actively interested in the promotion of child welfare.

Following the state conference at San Francisco, district conferences will be held at Los Angeles, Oakland, Fresno, and Sacramento. Later, conferences will be held in the individual counties and communities, the whole program being carried out over a two-year period.

The American College of Physicians.—Announcement has been made that the American College of Physicians will hold its seventeenth annual clinical session at Montreal, with headquarters at the Windsor Hotel, February 6 to 10, 1933.

Dr. Francis M. Pottenger of Monrovia, as president of the college, has charge of the program of general sessions. Dr. Jonathan C. Meakins, professor of medicine and director of the department, McGill University Faculty of Medicine, is general chairman of local arrangements and in charge of the program of clinics. Mr. E. R. Loveland, executive secretary, 133-135 South Thirty-sixth Street, Philadelphia, Pennsylvania, is in charge of general business arrangements, and may be addressed concerning any feature of the forthcoming session, including copies of the program.

Third Annual Postgraduate Symposium on Heart Disease. — Encouraged by the widespread interest manifested in last year's heart clinics, the Heart Committee of the San Francisco County Medical Society and of the San Francisco Tuberculosis Association has decided to hold another clinical symposium on Heart Disease on November 16 and 17, 1932. The course will consist of lectures, and discussions of the various phases of heart disease, with clinical demonstrations. All physicians will be welcome. Programs will be mailed on request.

Address: Heart Committee, 604 Mission Street, San Francisco.

Board of Medical Examiners of State of California Elects Officers.—The following news dispatch appeared in the California daily press of October 18, 1932:

Sacramento, Oct. 17.—(AP)—Dr. Percy T. Phillips of Santa Cruz was reëlected president of the State Board of Medical Examiners at a meeting here today. Dr. William R. Maloney of Los Angeles was elected vice-president and Dr. Charles B. Pinkham of San Francisco was again chosen secretary-treasurer.

Surgeon-General of United Spanish War Veterans. At the national encampment of the United Spanish War Veterans held at Milwaukee, Wisconsin, Dr. Smith McMullin of Yuba City was elected surgeon-general of the national organization. California colleagues of Doctor McMullin are appreciative of the honor which has come to him.

San Diego Academy of Medicine.—Dr. Hans Lisser of San Francisco was the guest speaker at the San Diego Academy of Medicine on November 3 and 4. His subjects were: Present Status of Organotheraapy; and The Diagnosis and Treatment of the Clinical Syndromes Produced by Excessive or Deficient Secretion from the Suprarenal Medulla and Cortex.

American Society for the Control of Cancer.—At its meeting of October 8 the board of directors of the American Society for the control of Cancer took the following action:

It was voted that the bulletin of the society be made its official organ and that the present relationship between the society and the *American Journal of Cancer* be discontinued.

Colver Lectures at Los Angeles.—The College of Medical Evangelists announces the fifth series of the Colver Lectures for the medical profession to be delivered by Dr. Russell M. Wilder of the Mayo Clinic on November 15, 16, and 17 (Tuesday, Wednesday, and Thursday evenings), at 8:15 at the White Memorial Hospital, the lectures to be held in the Paulson Hall, Michigan Avenue and State Street. The titles of the lectures are as follows: The Diagnosis of Parathyroid Overfunction, Tuesday evening, November 15; The Treatment of Obesity, Wednesday evening, November 16 (this lecture is sponsored by the Section of Internal Medicine of the Los Angeles County Medical Association); Spontaneous Hypoglycemia, Thursday evening, November 17. A cordial invitation is extended to all members of the medical profession as well as to medical students and others interested in medicine. Doctor Wilder's investigative and clinical work, particularly in the field of diabetes, is widely known.

Public Health Activities of Milbank Memorial Fund. The question of how to increase the purchasing power of the public health dollar will receive renewed emphasis in the policy of the Milbank Memorial Fund, which granted $843,337 last year for philanthropic projects, according to its annual report published yesterday.

In the twenty-seven years since it was founded by Mrs. Elizabeth Milbank Anderson, this Fund, of which John A. Kingsbury is the secretary, has appropriated $8,987,575 for public health, social welfare, and education. During that period 147 projects have been aided. Last year its grants amounted to $843,337. . . .

During the past year, according to Mr. Kingsbury, the emphasis of the Fund has shifted "from experiments in applying commonly accepted procedures, as in the New York health demonstrations, to experiments with new or improved public health administrative methods, these methods themselves being the outgrowth of analysis of past experience and planned especially for community programs." In view of present-day economic problems the report stresses "the need of obtaining the greatest efficiency in public health work, in order thereby to increase the purchasing power of the public health dollar, whether that dollar comes from taxation or from voluntary contributions."

A major project aided by the Milbank Memorial Fund since 1927 is the work of the Committee on the Costs of Medical Care, to which a grant of $80,000 was made in 1931. This committee, headed by Dr. Ray Lyman Wilbur, is studying the problem of providing adequate medical care at costs which can be met by all people and which will at the same time provide adequate remuneration for the physician. The committee's work is nearing completion. . . .

The Milbank report reviews the health activity in the Bellevue-Yorkville Health Center, New York City, to which the Fund has contributed for five years. This work, under the leadership of Dr. Shirley W. Wynne, City Commissioner of Health, besides inaugurating important clinical nursing, and other health services in the area, has provided valuable experience which is utilized in planning the new health centers in New York City. . . .

A grant of $50,000 was made in 1931 to the New York Diphtheria Prevention Commission, of which Thomas W. Lamont was chairman, bringing the Fund's total contribution for this work to $190,000. More than half a million children were immunized during the campaign conducted by this Commission. . . .

The Milbank foundation's division of publication reports the issuing of five volumes during 1931 in cooperation with publishers for the book trade, namely, "Health on the farm and in the Village" by Professor C.-E. A. Winslow, a critical survey of the Cattaraugus County Health Demonstration; "School Ventilation, Principles and Practices" by the New York Commission on Ventilation; and a series of three volumes by Sir Arthur Newsholme entitled "International Studies on the Relation Between the Private and Official Practice of Medicine with Special Reference to the Prevention of Disease." Sir Arthur's work gives the findings of a survey of health procedures in Europe which he conducted for the Milbank Memorial Fund. A volume entitled "Medicine and the State," which interprets the survey, has been published this year.

CORPORATION PRACTICING DENTISTRY

Because the issues involved are somewhat similar to those met with in certain medico-legal complications, space is being given to an interesting decision that has just been handed down by the Supreme Court of the State of California. The case is known as *Parker* vs. *Board of Dental Examiners, State of California:* S. F. No. 14394. The decision was rendered September 1, 1932, and was printed in the September 8, 1932 issue of *California Decisions*,* the official organ of the Supreme Court of the State of California.

Lack of space in California and Western Medicine prevents publication of the full opinion, but the editor has excerpted some of the major principles which were discussed by the learned court. These follow:

S. F. No. 14394. In Bank. September 1, 1932.

Painless Parker, Plaintiff and Appellant, vs. The Board of Dental Examiners of the State of California and O. E. Jackson, C. E. Pryor, Harvey Stallard, C. A. Herrick, Bert Boyd, J. M. Blodgett and E. O. Lawing, as Members and Comprising said Board of Dental Examiners, Defendants and Respondents.

[1] Dentists—Legislature—Police Power.—The legislature has power to regulate the practice of dentistry, not only on the ground that it concerns public health, but also on the ground that it is the state's duty to enact laws which will afford protection to public morals.

[2] Id.—Corporations—Licenses.—The law does not assume to divide the practice of dentistry into a "business side" and the actual performance of the dental work, the subject being treated as a whole, and under the Dental Act a corporation or unlicensed person may not legally manage, conduct or control the "business side" of the practice of dentistry.

[3] Id.—Unprofessional Conduct — Suspension of License—Evidence—Findings.—In this proceeding to review

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*Copies of this number of "California Decisions" may be had at fifty cents each by writing to The Recorder Printing and Publishing Company, 460 Fourth Street, San Francisco, Cailf.

an order of the Board of Dental Examiners suspending petitioner's license to practice dentistry for a period of five years, the evidence was sufficient to support the findings of the board that petitioner aided and abetted a corporation and a natural person, who were not licensed to practice dentistry, to unlawfully engage in the practice of dentistry, and that petitioner had used false, assumed and fictitious names in conducting and engaging in the practice of dentistry in this state.

[4] Id.—Jurisdiction.—In such proceeding, the acts of petitioner were within the purview of the statute defining unprofessional conduct, and the Board of Dental Examiners therefore had jurisdiction to suspend petitioner's license.

[5] Id.—Laches.—Delayed action on the part of those who are charged with the execution of laws will not be permitted to annul the law, and in such proceeding, where it appeared that for a period of some fourteen years the Board of Dental Examiners and petitioner had had frequent controversy as to the legality and professional propriety of petitioner's methods employed in the practice of dentistry, and that at no time was the subject set at rest, there was no merit in the contention that the long period of time over which petitioner had operated and the interpretation that the board and its legal advisers had placed upon the statute was entitled to weight in determining the question as to whether or not petitioner was guilty of unprofessional conduct.

[6] Id.—Witnesses—Immunity.—In such proceeding, petitioner could not complain that several witnesses against him testified under a promise of immunity from prosecution if they would testify under the provisions of Section 1324 of the Penal Code, which section had been repealed some fourteen years prior to the day of the hearing, the competency of evidence not depending in any way upon the means by which it is brought into court, where it is offered in evidence.

[7] Id.—Unprofessional Conduct—Punishment.—In such proceeding, even if it were to be admitted that the suspension of petitioner from the practice of dentistry for a period of five years was excessive, the matter was one for the Board of Dental Examiners, and the order could not be modified by the court.

Appeal by plaintiff from a judgment of the Superior Court, City and County of San Francisco, Walter Perry Johnson, Judge, in an action to set aside order of the Board of Dental Examiners suspending petitioner's license to practice. Affirmed. Langdon, J., dissents.

On hearing after judgment in District Court of Appeal, First District, Division Two (66 Cal. App. Dec. 36), reversing judgment of Superior Court in an action to set aside order of Board of Dental Examiners suspending petitioner's license to practice. Judgment of Superior Court affirmed. Langdon, J., dissents.

For Appellant—Harry Keyser, John C. Stevenson.

For Respondents — Jesse W. Carter, Annette Abbott Adams.

This appeal is taken from a judgment entered by the Superior Court of the City and County of San Francisco in a certiorari proceeding wherein said Superior Court affirmed the order or judgment rendered by the Board of Dental Examiners of this state on December 7, 1929, upon original proceedings taken and had by said Board of Dental Examiners, suspending the license of said petitioner, Painless Parker, theretofore issued to him by said board, for a period of five years, commencing January 2, 1930. The matter is before us on an order transferring the cause to this court after decision by the District Court of Appeal, reversing the judgment of said Superior Court. The provisions of the Act regulating the practice of dentistry (Deering's General Laws of California, 1931, title 157, Act No. 2048) which bear upon the questions presented and found in Section 11 of said Act, and are as follows:

"Any person shall be understood to be practicing dentistry within the meaning of this Act who shall (1) . . . "

One of the penalties prescribed for the commission of the acts charged against the petitioner and appellant herein is the revocation or suspension of his license to practice dentistry in this state. Section 12 enumerates certain violations of the Act which are punishable as misdemeanors, and certain other violations which are punishable either as misdemeanors or as felonies. It provides as follows:

"Any person who . . . shall under any false, assumed or fictitious name, either as an individual, firm, corporation or otherwise or any name other than the name under which he is licensed, practice . . . "

Section 13 enumerates several grounds, any one of which is deemed sufficient cause for the revocation or suspension of a dentist's license. In the list the following appear: The rendition of a judgment by a court of competent jurisdiction finding him grossly unskillful or negligent in his practice; unprofessional conduct or gross ignorance or inefficiency in his profession. Unprofessional conduct is defined to consist of the employment of cappers or steerers to obtain business; aiding or abetting any unlicensed person to practice dentistry unlawfully; "the use of any false, assumed or fictitious name, either as an individual, firm, corporation or otherwise, or any practice, advertise or in any other manner indicate that he is practicing or will practice dentistry."

Section 15 of said Act provides that the Board of Dental Examiners, or any member thereof, may prefer a complaint "for violation of this Act or any part thereof," and concludes with making it the duty of the district attorney to prosecute all violations of said Act.

The accusation charges petitioner with unprofessional conduct in four counts. The first count charges that between August 4, 1915, and May 31, 1929, petitioner, Painless Parker, aided and abetted an unlicensed person to practice dentistry unlawfully. The gist of this accusation is that on August 4, 1915, petitioner caused to be formed and organized a corporation under the name of Painless Parker Dentist, for the purpose and with the object that said corporation should conduct, own, operate and control dental offices throughout this state, the United States of America and the Dominion of Canada, and thereafter, pursuant to said purpose and object, petitioner, Painless Parker, did aid and abet said corporation, Painless Parker Dentist, an unlicensed person, to practice dentistry in this state and to conduct, own, operate and control dental offices throughout the State of California, where dental operations were performed and the practice of dentistry was carried on.

Count two charges . . . .

Count three charges . . . .

Count four alleges . . . .

The Board of Dental Examiners found against petitioner on each one of said counts.

It may be taken as conceded that the original or given name of petitioner was Edgar R. and that said original or given name was discarded and "Painless" was, under form of law, adopted in its stead as his first or given name. . . .

The purposes for which the corporations Painless Parker Dentist and Associated Dental Supply Company, respectively, are formed and the powers which they assume to exercise are both multifarious and heterogeneous. While many of the purposes set out in the articles of incorporation have a connection with some of the various forms and kindred branches of dentistry, others have no relevancy whatsoever to the subject. . . .

It will be seen from the above summary that the Parker organizations, of which Painless Parker is the director in chief, are interlinked in the multifarious dental projects herein mentioned.

[1] That the regulation of the practice of dentistry comes as legitimately within the powers of the legislature as does the practice of medicine, or any other of the professions which require special scientific knowledge on the part of the practitioner, there can be no doubt. It must be conceded that the legislature has power to regulate the practice of dentistry not only on the ground that it concerns public health, but also on the ground that it is the state's duty to enact laws which will afford protection to public morals. There is no profession, except the practice of medicine, where the patient passes so completely within the power and control of the operator as does the dental patient. Not infrequently does the operator perform his work upon the patient in the privacy of his office. The right to administer anesthetics which produce local or general insensibility to pain, or drugs which may produce total or semi-unconsciousness, or otherwise affect the nervous system, should be withheld not only from all persons who are not highly skilled in the knowledge of and the use of said drugs, but also from persons who cannot produce evidence of good moral character. Good moral character and "fitness" to practice dentistry are statutory requirements. Dentistry is referred to in the Dental Act (Sec. 13, Subd. 3) as a profession. The letter of the statute authorizes persons only to engage in the practice of dentistry. The underlying theory upon which the whole system of dental laws is framed is that the state's licensee shall possess consciousness, learning, skill and good moral character, all of which are individual characteristics, and none of which is an attribute of an artificial entity. Surely the state, for the better regulation of the practice of dentistry, and as a means of preventing evasions of the law, and with the object of more readily fixing statutory responsibility, has the power to limit such practice to natural persons.

[2] Appellant claims that there is a distinction between the practice of dentistry which the statute undertakes to regulate and the purely business side of the practice; that the first requires skill and learning, while the latter requires only training in business transactions, and if the management or conduct of the "business side" by a layman is inhibited by statute, then the inhibitions of the statute are beyond the scope of the police power of the state, and are void as being unconstitutional, citing . . . .

The practice of dentistry is not open to commercial exploitation. Such would be its fate if the methods adopted by petitioner should become general. That a corporation may not engage in the practice of the law, medicine, or dentistry is a settled question in this state. None of those professions which involves a relationship of a personal as well as a professional character, which has to do with personal privacy, can be placed in the same category as druggists, architects, or other vocations where no such relationship exists. The question here is whether the practices as jointly carried on by petitioner and his corporate associates and entities justify the inference that all are, as a matter of fact, mutually engaged in the practice of dentistry, or do the particular methods employed sustain the accusations, or any of them, charging petitioner with unprofessional conduct. The record speaks for itself, and further particularization is not necessary.

Petitioner has not shown that a greater or better public good has been promoted by the formation of the corporations and subsidiary associations by and through which he has conducted the practice of dentistry than that which has accrued to the long-established ethical standards which are founded upon experience, investigation and research, and which have so universally met with the approval of the public's conception and understanding of the legal and ethical proprieties as to have become codified into the laws of this state and practically into the laws of many of the countries of the civilized world.

[3] Considering the letter and spirit of the Dental Act founded upon the universal method of practicing dentistry which has prevailed in this state for many years, we are of the view that the findings of the Board of Dental Examiners are supported by the evidence. . . .

[4] The only question presented by this appeal is one of jurisdiction. We are of the opinion that the acts complained against bring petitioner within the purview of the Acts defining unprofessional conduct as herein set forth.

[5] It is insisted that the long period of time over which petitioner has operated, and the interpretation that the board and its legal adviser have placed upon said Act is entitled to weight in the proceeding. For a period of some fourteen years the board and petitioner have had frequent controversy as to the legality and professional propriety of petitioner's methods employed in the practice of dentistry. At no time was the subject set at rest. Delayed action on the part of those who are charged with the execution of laws will not be permitted to annul the law. It may be considered by the court as a reason for the mitigation of punishment, but the judicial department is not absolutely bound to regard it.

[6] Several of the witnesses who were employees of the Parker organization upon being called to the stand were advised by their attorneys that they might claim their privilege and decline to testify on the ground that they were not required to give testimony against themselves. The board thereupon promised them immunity from prosecution if they would testify under the provisions of Section 1324, Penal Code, which section had been repealed some fourteen years prior to the day of the hearing. Said witnesses testified and petitioner claims that this evidence was improperly admitted and cannot be considered, on the ground that it was obtained through mistake as to Section 1324 being a subsisting Act. There is no merit in this contention. . . .

[7] It is earnestly insisted that the suspension for a period of five years from the practice of dentistry imposed by the Board of Dental Examiners is excessive. We may agree with petitioner that it does appear rather severe, considering the age of petitioner and the circumstances of the controversies which have been waged between him and the Board of Dental Examiners. As above remarked, we have no power to modify it. The board that imposed the penalty has the power at any time to modify or revoke it as may appear to them to be just.

Judgment affirmed. SEWELL, J.

We concur: Curtis, J., Preston, J., Tyler, P. J., Waste, C. J.

A dissenting opinion was submitted by Langdon, J.

SANTA BARBARA COUNTY GENERAL HOSPITAL

In the editorial section * of this issue of California and Western Medicine attention is called to an interesting letter that has been filed in Santa Barbara County by one of its citizens, Mr. William S. Long. Mr. Long made demand on October 6, 1932, that pay patients be no longer admitted to the Santa Barbara County General Hospital.

A press dispatch printed in the Los Angeles *Times* of October 7 led the editor to obtain copies of the Santa Barbara newspapers of even dates. The Santa Barbara *Daily News* of October 6, 1932, contained an extensive report on the entire matter, printing not only Mr. Long's demands on county officials of Santa Barbara County, but also an open letter by Mr. Long in which he explained why he had instituted his actions.

The articles make very interesting medico-legal reading, and because of their important bearing on the public health and on the interests of the medical profession of California, they are reprinted in this issue of California and Western Medicine.

The open letter of Mr. Long is first given, and is followed by the *Daily News* article.

Mr. Long's open letter is as follows:

SOCIALISM GONE MAD

William S. Long Declares Present County Hospital System "Outranks the Most Fantastic Reveries Ever Indulged in by Karl Marx While Contemplating the Creation of His Mythical Utopia!"

Editor, The Evening News:

In asking the courtesy of your columns to explain my reasons for issuing a demand against the Board of Supervisors pertaining to the work of the General Hospital of Santa Barbara and the Santa Maria branch thereof, it is my wish to have this subject brought before the entire community, in order that my viewpoint pertaining to the functions of these institutions shall be fully understood.

I have neither political nor ulterior motives in making this demand. On the contrary, my action is entirely altruistic, and for what I consider to be the best interests of all the citizens of the county.

It is officially reported that the public debts of the various units of our American republic amount to the staggering sum of thirty-one thousand million dollars! This means that every man, woman and child in the United States, whether in the cradle, in jail, in asylums, in homes for the aged, employer or unemployed owes $250 to public bondholders; and fifteen thousand million dollars must be produced each year for governmental purposes!

Several states are now on the verge of bankruptcy, and public bond defaults are published every day of the week. Even our own California is not immune from these defaults; and they will become more numerous if drastic remedies are not applied to curb our public outlay.

We should remember that the people of this state pay about $700,000,000 a year for the privilege of basking in the sunlit atmosphere of California, and even our Secretary of State has expressed fears as to our ability to meet this enormous taxation.

The General Hospital is an illustration of how we have overstepped the limits of sane and safe operation of our public institutions. Originally planned as a hospital for the care of the needy poor, it has developed into a great and luxurious sanitarium, into which are accepted many persons who are fully able to pay their own expenses in private hospitals. The statutes under which these institutions operate explicitly state that their work shall be done exclusively among the indigent (with certain well-defined exceptions), such as emergency cases when called upon to do so—merely this and nothing more.

No person through whose heart courses human blood will raise any objection to the treatment of the indigent sick. These unfortunates must be served good food and accorded proper care and attendance; they must be brought back to health and placed on their feet so that they may be better able to cope with the conditions prevailing in modern life.

But the charity of the state does not extend to those who are possessed of sufficient means to pay their own expenses. On the contrary, the general hospitals are public foundations, supported by the community for the benefit of impoverished citizens of the county. Moreover, it was not the intention of the taxpayers to erect, equip and maintain a vast organization for the treatment of one and all who wish to enter.

The General Hospital is the property of the taxpayers of the county and as a property owner of this city and county, I wish to enter a protest against the expenditures of my taxes for the support of an institution that renders all the benefits of high-grade hospitalization, at a nominal fee, to persons who own property and, in many instances, enjoy highly remunerative incomes.

The decrease in revenue from my property, without a corresponding decrease in taxation, has resulted in a condition that is nothing short of confiscatory—and innumerable instances of overtaxation are to be seen on every hand.

Therefore, I deem that it is within my right to ask if it is fair or reasonable to impose heavy taxation upon property that is yielding three or four per cent on the investment, and use the money upon persons who are well able to pay their own bills?

Is it justifiable to levy tribute upon a man who is earning a mere existence in order that another man—perhaps in superior financial circumstances—shall enjoy, without adequate payment therefor, all the comforts a modern hospital extends to its clientele?

This is socialism gone mad! It usurps the rights of the citizens as those rights are defined by the state legislature for the operations of such institutions. Yes, it outranks the most fantastic reveries ever indulged in by Karl Marx while contemplating the erection of his mythical Utopia!

It is common knowledge that the sentiment prevails among the people of Santa Barbara County that the cost of operating the General Hospital is far above what the community had in mind when the plans were being formulated. The sentiment animating the people was to extend a charitable hand to afflicted persons who could not afford to engage a physician, employ a qualified nurse, or to purchase the delicacies that illness requires.

Explanations may be made to the effect that the revenue derived from pay patients redounds to the welfare of the hospital, because the receipts enable the institution to render better service to those who do not pay. But, according to the statement published recently, these receipts are infinitesimal when compared with the general expenses, and it is my opinion that this income from pay patients is inconsequential so far as the profitable operation of the hospital is concerned.

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* See editorial comment in this issue of California and Western Medicine, page 322.

Under any circumstances, the influx of pay patients places an inhibition upon the worthy poor, because the affluent are assigned to rooms that should be allocated to indigents—and it must be conceded that this procedure is absolutely contrary to the law, which specifically and categorically states that the county hospitals shall be conducted as eleëmosynary institutions—in other words, for the sole benefit of such people who are not possessed of the means to pay for medical treatment elsewhere.

The author of this brochure is not acting in a mercenary capacity; neither will he engage in an acrimonious political or personal controversy pertaining to the complaint. The issue must be decided by a court of equity according to the merits of the case.

WILLIAM S. LONG,
Santa Barbara, Calif.

* * *

The *Daily News* article follows:

Ousting of All County Hospital "Pay" Patients and Return by Officials of Money Spent on Their Care Demanded

W. S. Long, Santa Barbara Resident and Taxpayer, Issues Order Calling on District Attorney to Recover Sums That May Total Over $75,000, and 20 Per Cent Additional.

Demand that the county of Santa Barbara immediately cease caring for any but indigent patients at the Santa Barbara General Hospital and the Santa Maria Branch County Hospital, and that the supervisors, the county auditor, and county treasurer return to the county—at once—all county money that has been spent for the care of patients other than indigents at these hospitals was served by Sheriff James Ross this morning on each of the supervisors, the auditor, the treasurer, and district attorney.

The amount of money involved in the return order, even if the three-year statute of limits applies, as county officials claim, will be upward of $75,000, plus 20 per cent additional damages.

These notices and demands were served on the order of W. S. Long, 1125 Olive Street, owner of an apartment house at that address and a resident and taxpayer of Santa Barbara for eight years and a former Philadelphia newspaper man.

Coincident with the action, Long delivered to the *News* a statement of his position and purposes in the action, which is self-explanatory and is published in a parallel column.

Long said this morning he took the action because he is convinced that county hospital care for patients who are able to pay for their care is forcing a tremendous and illegal tax burden upon the taxpayers, many of whom are barely escaping indigency under present business conditions.

Long has engaged as his counsel the law firm of Butcher & Haines, and the papers served today were prepared by Alfred D. Haines.

Haines said:

"TAXPAYERS' RIGHT"

"We have made a thorough investigation into the grounds supporting these actions and are convinced of Mr. Long's right to demand, as a taxpayer, both the injunction, immediately dismissing all pay patients from the county hospitals and the district attorney's action for recovery to the county of all money spent by the county in the care of patients not legally county charges.

"If the district attorney refuses to take this action, Mr. Long will at once bring suit himself as a taxpayer for the return of the money he claims has been spent illegally. It makes little difference to us whether the suit is brought by the district attorney or by Mr. Long.

"It has been the custom for a number of years in both the Santa Barbara and Santa Maria county hospitals, and in the latter particularly, to care for nonindigent patients at 'cost prices.' At the present time the Santa Maria hospital is turning in about $1500 a month, received from 'pay patients' and Santa Barbara hospital is turning in $300 to $500 a month from the same source. It is presumed that the care of these patients costs the amount charged and, according to recent surveys, this cost does not include capital investment, depreciation, and a number of general county overheads. On this basis there is about $24,000 a year involved and if collectable at all, collectable over a period of at least three years.

"A feature of the situation involved in Long's demands is that according to the first unofficial opinion of the district attorney and other county officials, the amount that the county has collected in its hospitals from 'pay patients' cannot be applied against any recovery judgment which Long might win."

ENTIRE AMOUNT

This opinion, it was said, is based upon the general rule that an official cannot demand back from a governmental unit any profits which may have accrued to that unit of government as a result of the official's illegal act.

If this opinion holds true, the actions brought by Long will not take into account any compensation which the county may have received from what Long claims has been an illegal activity and the amount of refund demanded will be the entire amount spent on all patients in county hospitals who have not been listed as indigents when cared for.

* * *

MAKES FORMAL DEMAND

As preliminary to his action for the recovery of the alleged illegal county expenditures, Long has had served on the supervisors, county auditor, and county treasurer the following formal demand that all nonindigent patients be barred from the county hospitals and all payment for care of nonindigent patients stopped:

To C. L. Preisker, Ronald M. Adam, Fred G. Stevens, Sam J. Stanwood, and Thomas T. Dinsmore, as Supervisors of the county of Santa Barbara, state of California, and comprising the Board of Supervisors of said county, Albert T. Eaves, as auditor of the said county of Santa Barbara, state of California, and W. B. Metcalf as treasurer of said county of Santa Barbara, state of California.

The undersigned, a citizen, resident in, and a taxpayer of the said county of Santa Barbara, hereby makes demand upon C. L. Preisker, Ronald M. Adam, Fred G. Stevens, Sam J. Stanwood, and Thomas T. Dinsmore, as supervisors of the said county of Santa Barbara, and comprising the Board of Supervisors thereof, that you and each of you cease and desist from maintaining, operating, and using or causing, authorizing, permitting, or directing to be maintained, operated and used, the General Hospital of the said county of Santa Barabara and the Santa Maria branch thereof, for the care, treatment and hospitalization of any persons other than the indigent sick and dependent poor of the said county of Santa Barbara, partially dependent persons in cases of emergency, persons in the active stages of tuberculosis, physically defective or physically handicapped persons under eighteen years of age when and for whom the parents or guardians of such persons are not financially able to secure proper care and treatment, and sick and injured persons in cases of emergency; and that you and each of you cease and desist from furnishing care, treatment and hospitalization, or causing, authorizing, permitting, or directing care, treatment, and hospitalization to be furnished in said General Hospital and said Santa Maria branch thereof to persons other than those above enumerated, and from using, maintaining and operating said hospital and said branch thereof, or causing, authorizing, permitting or directing the use, maintenance, and operation of said hospital and said branch thereof as hospitals in which persons not qualified, permitted, nor authorized by law are given treatment, care, and hospitalization.

And the undersigned hereby makes demand upon the said Albert T. Eaves as such auditor of said county, to cease and desist from drawing warrants on the treasury of the said county in payment of any claims or demands for such uses and purposes of said hospital and said branch thereof, which are not provided for or authorized by law, and the undersigned hereby makes demand upon said W. B. Metcalf as the treasurer of said county, to cease and desist from paying any warrants out of the treasury of said county for such unauthorized uses and purposes which are not provided for or authorized by law.

Dated at Santa Barbara, California, October, 1932.

William S. Long.

* * *

ORDER FOR RECOVERY

Having cleared the way by this formal demand for cessation of the alleged illegal county activity, Long makes the following demand upon District Attorney Percy Heckendorf to recover the money alleged to have been illegally spent in past years:

To Percy C. Heckendorf, District Attorney of the County of Santa Barbara, State of California.

The undersigned, a citizen, resident in, and a taxpayer of, the said county of Santa Barbara, hereby makes demand upon you to institute suit in the name of the said county of Santa Barbara, against C. L. Preisker, Ronald M. Adam, Fred G. Stevens, Sam J. Stanwood and Thomas T. Dinsmore, as supervisors of the said county of Santa Barbara, and against Albert T. Eaves, as auditor of said county of Santa Barbara, and W. B. Metcalf, as treasurer of said county of Santa Barbara, to recover all moneys paid out of the treasury of the said county of Santa Barbara for the maintenance and operation of the county hospital known as the General Hospital of said county, and the Santa Maria branch thereof, for the furnishing of care, treatment and hospitalization in said hospitals to and for persons other than the indigent sick and the dependent poor of said county, partially dependent persons in cases of emergency, persons in the active stages of tuberculosis, and physically defective or handicapped persons under eighteen years of age when the parents or guardians of such persons are not financially able to secure proper care and treatment, and sick or injured persons in cases of emergency, together with twenty per cent damages thereon as provided by law, and to restrain the payments of any warrants drawn in payment of any claims or demands for any of said unauthorized disbursements and purposes aforesaid.

Dated at Santa Barbara, California, October, 1932.

William S. Long.

C. M. A. PLAN FOR SERVICE TO LOW BRACKET INCOME CITIZENS*

From the *Bulletin* of the Los Angeles County Medical Association is reprinted the following account of the meeting of that county unit, held to hear a presentation of some of the plans which have been evolved by the California Medical Association Committee on Public Relations. The article is as follows:

Medical Service Plan Presented to Great Gathering of Los Angeles County Association

"When the Angel Gabriel blows his horn there will be some who will rub the dust out of their eyes and say that they are not ready.

"The time for procrastination on the problems that face the medical profession is past. There are some who are sure to say we should wait a while longer. We can no longer take that position. An able committee with able counsel have made an exhaustive study of all the factors available, and have shown us the way.

"It is time to march on."

From the address of John H. Graves, M. D.

The greatest gathering in the history of the Los Angeles County Medical Association assembled at the Breakfast Club, Wednesday evening, October 12, to hear the presentation, for their earnest consideration, of the medical service plan as prepared after months of work and study by the Public Relations Committee of the California Medical Association.

More than six hundred sat down to the steak dinner which preceded the program. Others, because of previous engagements, arrived later to hear the speakers.

Among these speakers were Dr. John H. Graves, San Francisco, chairman of the Public Relations Committee; His Honor, Leon R. Yankwich, judge of the Superior Court, Los Angeles; Dr. Harry H. Wilson, secretary of the County Medical Association and a member of the Public Relations Committee, and Hartley F. Peart, San Francisco, counsel for the California Medical Association.

Doctor Wilson, in outlining the plan and summarizing the work done by the committee, said:

"The committee approached the problem of providing proper medical care for the low-income individual in an utterly unselfish manner. There was no attempt to put over a 'program.' The plan as developed is the result of a searching diagnosis of the pressing problems involved and of all the plans that from time to time have been presented or tried here and abroad. It is the sense of the committee that the merits of the principles involved be left entirely for the approval of the various county units.

"Where does the responsibility for the medical care of the people rest? We have seen it shift from the individual physician to the state, and at the present time there is a division of such responsibility. Organized Medicine has allowed this condition to develop, and has stood by and helped.

"It is discouraging to the profession to know that service now is given gratis by the profession to one-half of the sick in California. County Health Department bureaus, the Workmen's Compensation laws, company medical care, clinics—free or semi-free, and health insurance, the newest move, are taking the responsibility for the care of the sick out of the hands of those who should have it—the physicians."

The aim of the committee in devising the plan was stated briefly by Doctor Wilson as follows:

"To devise a plan, regardless of personal views, regardless of the fact that it might be rejected by county units or the Council of the California Medical Association; to formulate a plan as free from errors or objectional features as possible."

A survey of the activities of various governmental agencies was presented by Doctor Wilson to show the great encroachment such activities have made into the rightful province of individual medical practice.

He outlined the essential elements of the plan as prepared by the committee and adopted by the Council of the State Association. (These are printed under a separate heading in this issue of the Bulletin.)

"The problem has been brought about," said Doctor Wilson, "by the optimism of the average man who fails to budget the probable cost of illness. Educational work has been urged; has been tried extensively, and has proved futile. The next step is a definite plan that the average man will find workable."

Dr. William R. Molony, president of the County Association, in presenting the next speaker, said:

"For a long time the medical profession has been concerned only with its own affairs. There has been little or no civic consciousness. It is time that the profession develop such consciousness and take a greater interest in those things that now vitally concern us."

"No words can express the significance of such a large gathering. It is an able answer to those who say that the medical profession is not socially minded or interested in the welfare of those about us," said Dr. John H. Graves, in opening his talk. He continued:

"I can assure you that the Public Relations Committee members who gave up their spring and summer and fall months to work on this plan have proceeded calmly to analyze the problems and to arrive at sane conclusions.

"There are some essential facts: The advance in medical science in the last forty years has added more benefits to civilization than all the inventions or advances in all the other branches of human activity.

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* See, also, this issue of California and Western Medicine for editorial comment, and an article in the Department of Public Relations column, pages 322 and 330.

"It is paradoxical that the medical profession should be so ultraconservative when it comes to changing the method of presentation of their new services when they are making such rapid strides in changing—constantly for the better—the methods of treatment.

"We are now asked by society to make these new findings of medical science available to all when they are in need of them.

"These services are available now for the indigent. They are available for the rich—of whom we still have a few left. But what about the man of moderate means? He is our average patient and special concern. For him to obtain adequate medical care at a price he can afford to pay is the problem. The medical profession is asked by a waiting public to solve it. And while we are delaying, two methods for the obtaining of such service have been presented:

"The first, compulsory state insurance controlled by politicians, which service is in vogue in Europe and is a failure in that the service is inadequate and results in quackery, fraud, and political and professional corruption. It is fraternalism in its purest form and is not acceptable to citizens of the State of California.

"The second method is health insurance sold for profit by promoters who propose to sell the prospective patient a physician's services. Many such services defraud the people and disgrace the profession.

"There is no place for the middleman to stand between the physician and his patient.

"The plan which is presented here and which has been approved by the Council of the State Association, is the medical profession's positive answer to society's query: 'What are you going to do for us?' "

Further details of the plan were discussed by Doctor Graves in which he showed that the plan was designed to protect the individuality of the physician and the patient and that the legal status of the plan was firmly established.

In concluding, Doctor Graves said:

"There will be some who will say that we should wait awhile. That is not judicious now; the problem has been thoroughly analyzed and a program to meet it evolved. To wait now is procrastination. When the Angel Gabriel blows his trumpet there will be some who will ask him to wait a minute because they are not ready, but are still rubbing the dust out of their eyes. We can no longer take the position of watching and waiting. The work has been done by an able committee with able counsel. It is time to march on."

Dr. Lyell Kinney of San Diego, past president of the State Association, paid a high tribute to the members of the committee, and said:

"You may study this plan long before you will find a flaw in it. The State Association has been working quietly but diligently in a most important fight against premature efforts at state medicine. This plan is offered as an answer."

Hartley F. Peart, counsel for the State Association, discussed the legal aspects of the plan and denounced the principles of some of the lay operated hospital associations, which he said were exploiting the sick and the doctor at the same time, and whose activities were now subject to investigation. He stated that some of these lay institutions are making a farce of the practice of medicine.

Mr. Peart told of the conditions in medical practice that have developed through county hospital situations in a number of counties, especially Merced, Kern, and Santa Barbara counties. These situations, he said, call for immediate and diligent attention by the profession.

Any question as to the financial liability of a county unit or of the individual physician in such a unit when the unit adopts the plan was allayed by Mr. Peart. The plan in no way increases the normal liability in medical practice as applies to the individual physicians who compose the unit adopting it, or to the unit as a whole.

Leon R. Yankwich, judge of the Superior Court of Los Angeles, in a most interesting and learned talk, traced through history the changes that have taken place in the social and economic structure to illustrate that such changes are constant and inevitable, and that such changes can best be met by those who are awake to them.

* * *

The *Bulletin* of the Los Angeles County Medical Association also printed the following digest of the plan for carrying on this work through county medical societies:

IMPORTANT ELEMENTS OF MEDICAL SERVICE PLAN

Provides freedom of choice for both physician and patient.

Prevents prostitution of medical profession for profit.

Maintains the highest standards of the medical profession.

Each operating county unit to be completely under the control of the medical profession in that unit.

Service not to cover disability provided for by governmental provisions.

Service free from indemnity provisions.

Service limited to wage groups, coming under a certain financial standard, which standard is to be determined by the county units adopting the plan.

Best insurance principles incorporated as relates to rates and collections of fees from beneficiaries.

Provision for a hospital insurance plan, operating as a part of the medical service plan, or jointly with it, but under the complete control of the medical profession.

Hospital plan provides method of determining length of stay of beneficiary in hospital, lack of which factor has caused failure of insurance company attempts in the past.

Provides complete protection from financial liability.

The plan as presented has been approved by the Council of the California Medical Association.

ALAMEDA COUNTY HEALTH CENTER CLINICS*

In 1918, under the inspiration and tutelage of Miss Annie Florence Brown of Oakland, there was established in Oakland an eleëmosynary corporation under the title, "Public Health Center of Alameda County." In Berkeley and in Alameda there had been clinic centers established and these changed their names in the course of time to the Berkeley Health Center and the Alameda Health Center. Throughout Alameda County there were rural Health Centers developed which called themselves branches of the Alameda County Health Center, but over these centers the Alameda County Health Center did not exercise control.

In 1920 the Oakland College of Medicine turned its property over to the Alameda County Health Center and the Center's activities were moved to the college building at the corner of Thirty-first and Grove streets. This was a clinic for indigents and for those who were partly able to pay. During the first year of its operation there were 30,000 visits made to the clinic, and for these 30,000 visits the Health Center collected $17,000. During the year July 1, 1931, to June 30, 1932, there were made to the Public Health Center of Alameda County 106,839 visits. Of these visits, 76,653 were made totally at the cost of the Health Center. In other words, these were indigents and given "classification A"; "B class," consisting of 22,548 paid ten cents per call; "C class," consisting of 1,755, paid actual cost of all materials used in the visit. The average patient who paid at all paid between 18 and 19 cents per visit. It has been noted that from 30,000 visits to the Public Health Center in 1920 the Center collected $17,000. For the 106,839 visits for the fiscal year of 1931 and 1932, the Health Center collected $7000.

It is interesting to know that after the social service department had classified patients as "C" or "D" and then billed them in accordance with "C" or "D" classification, the usual experience was for the patient to claim classification in a lower bracket and usually accomplished a "B" classification. The fact that this occurred in a very large number of instances is evidence either of the fact that the Social Service classification was not accurately done or that an overaltruistic leniency permitted the reclassification in a lower class bracket.

In 1930 a survey of Alameda County was made by J. W. Mountin, surgeon of the United States Public Health Service, and his report was filed during that same year with the Alameda County Board of Supervisors. The circumstances surrounding the investigation are indicated in the introduction to the report, extracts from which are subjoined:

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* Contributed by request, by Daniel Crosby, M. D., Oakland, who addressed the Council of the California Medical Association on this subject at the September 24 meeting of the Council. See, also, pages 324 and 330, in this issue.

"The County Board of Supervisors, on behalf of the several health organizations, transmitted to the Surgeon-General of the United States Public Health Service through the State Board of Health in California, a request for the detail of an officer to conduct a study of health and hospital services supported in whole or in part by public funds. The salary of the surveyor, together with transportation to and from Alameda County, were borne by the United States Public Health Service; the other expenses connected with the survey were defrayed by the Alameda County Tuberculosis Association."

"An organization meeting held on February 10, 1930, was attended by representatives from the several agencies" (who appointed an advisory committee). . . . "The primary objects of the survey were to determine the quantity and quality of the work being performed; and the efficiency and adequacy of the service. Particular attention was given to those agencies supported in whole or in part by public funds and whose work for the most part was devoted to either the protection of the public health or the care of the ambulatory sick. Other agencies participating in or bearing a relationship to these functions were reviewed in less detail. The study was conducted from the administrative point of view, considering the needs of the county as a whole, rather than to determine the merits of an individual institution or item of service. Several considerations determined this course: (1) the desires of the people responsible for the survey; (2) the fact that imperfections could readily be explained on the basis of improper administrative organization; (3) the very practical reason that critical analysis of specialized functions demands detailed knowledge possessed only by experts in those limited fields; (4) and most of all because a survey which attempts to cover the universe must lack in specificity and is likely to be sterile of accomplishment." . . . "The report has been prepared in two main sections: (1) Prevention of Disease and Promotion of Health; (2) Care of the Sick." . . . "No attempt has been made to study or estimate the service rendered by physicians in their private capacity." . . . "At the present time the major and, in fact, most of the minor defects in the service have as their basis an improper administrative set-up. The improvement in the plan of organization should precede the correction of details. Throughout the report all comments and recommendations are based upon what is quite generally accepted as standard practice. An attempt has been made to exercise judgment in adapting this practice to the needs and conditions of the community."

The total population of Alameda County in 1929 was 440,200. Of the total population 91.4 per cent was classed as urban and 8.6 per cent as rural.

The important basic items of the major recommendations of the Mountin report and the recommendation which concerns the medical profession at this time follow: "(1) That the treatment function of all health centers be assumed by the County Institutions Commission. This should involve: control over appointments, budgets, and accounts and, where desirable, ownership of property."

This report, which was very complete, placed before the Board of Supervisors a complete picture of the problem of the care of indigent and near indigent in all of Alameda County as exemplified by the established Health Center program. This report was received, placed upon file, and apparently disregarded until August 23, 1932, when a resolution was introduced into the Board of Supervisors taking charge of the clinics in accordance with the recommendations of the Mountin report. On September 1 the resolution went into effect, and in the intervening time all the pay clinics of the county have been discontinued.

Thus, in one stroke, by the official bodies of the county, all of the part-pay clinics were discontinued and it became necessary for steps to be taken by someone to permit a continuance of such treatment as was necessary for those of small means. The medical profession of this county, as elsewhere, has prided itself upon its ability to take care of the sick in accordance with their ability to pay and with a speed in keeping with the best ideals of the medical profession the medical society of the county of Alameda adopted the following resolution:

Whereas, It has come to the attention of the Council of the Alameda County Medical Association that certain changes have taken place in connection with the work performed by the county through its county physicians and the consideration that they have made to indigent sick and dependent poor; and

Whereas, Public health centers have up to this time cared for certain patients from whom certain fees have been taken and who appear to be not eligible for care at the expense of the public under the Indigency Acts of the State of California; and

Whereas, The medical profession realizes the need of maintaining a service for patients who are not able to pay a full fee, therefore it appears to be necessary to establish a plan whereby certain patients formerly cared for at health centers, who do not technically fall under the term "indigency" and at the same time require attention at the hands of reputable physicians, and whose care should be assumed at a price within the ability of the patient to pay; now, therefore, be it

Resolved, That the Alameda County Medical Association agrees to establish a list of physicians who will volunteer to accept calls from such classes of patients and to render service when called, in coöperation with established official county agencies and centralized social service as established in Alameda County, and according to such additional plans as may be developed."

The members of the Medical Association of Alameda County are responding to this call almost to a man, and within another week or two it is expected that the care of those who are only partly able to pay will be well under way in this county. This will mark the institution of one of the most significant experiments that the medical profession in the West have had an opportunity to try.

PSITTACOSIS

Executive Order

Restricting for the Time Being the Introduction of Parrots into the United States

Whereas there have been officially reported in widely separated portions of the United States since the middle of December, 1929, a considerable number of human cases, some of them fatal, of a disease communicated by infected parrots; and

Whereas there is evidence that such parrots have been introduced from ports outside of the continental United States; and

Whereas there exists danger of further such introduction;

Therefore in order to prevent the further introduction of disease communicable from parrots to human beings, from ports outside of the continental United States into the United States, by virtue of the authority vested in me by Section 7 of the Act of Congress approved February 15, 1893, entitled, "An act granting additional quarantine powers and imposing additional duties upon the Marine-Hospital Service," it is ordered that no parrots may be introduced into the United States or any of its possessions or dependencies from any foreign port, for such period of time as may be deemed necessary, except under such conditions as may be prescribed by the Secretary of the Treasury.

This order shall take effect from and after this date.

HERBERT HOOVER.

The White House, January 24, 1930.

(No. 5264)

Regulations Governing the Importation of Birds of the Parrot Family Into Ports of the United States, Prescribed in Accordance with the Provisions of Executive Order No. 5264, Approved January 24, 1930.

(Revised October 6, 1932)

1. For the purpose of these regulations the term "birds of the parrot family" (Psittacidæ) shall include all birds commonly known as parrots—Amazons, Mexican double heads, African grays, cockatoos, macaws, lories, parrakeets, love birds, and all similar birds. . . .

* * *

Amendment No. 2 to the United States Interstate Quarantine Regulations, Public Health Service

Treasury Department
Office of the Secretary
Washington, September 28, 1932.

In accordance with the provisions of the Act of Congress approved February 15, 1893, the United States Interstate Quarantine Regulations are hereby amended by the addition of Section 15½ as follows:

TRANSPORTATION OF PARROTS, PARRAKEETS, AND OTHER BIRDS OF THE PSITTACINE FAMILY

Section 15½. No person, firm or corporation shall offer for shipment in interstate traffic, and no common carrier shall accept for shipment or transport in interstate traffic, any parrot, parrakeet, love bird, macaw, cockatoo, lory, lorikeet, or any other bird of the parrot or psittacine family, unless an accompanying certificate has been obtained from the State health authority to the effect that to the best of the knowledge and belief of such authority such bird as may be offered for shipment has originated from an aviary, or other distributing establishment, free from psittacosis infection.

A. A. BALLANTINE,
Acting Secretary of the Treasury.

* * *

Parrot Fever Warning Issued by Public Health Service

The United States Public Health Service advises all persons to avoid contact with recently shipped or acquired birds of the parrot family. Several cases of psittacosis, or parrot fever, are being reported in various parts of the United States. Reports of five cases and one fatality have recently been received from Minneapolis, Minnesota. Another case has been reported from Boise, Idaho. There have been twelve cases of parrot fever, with six deaths, reported in California between December 1, 1931, and February 10, 1932.

Upon the recommendation of the Public Health Service, the Secretary of the Treasury has recently issued an order amending the interstate quarantine regulations so as to limit the interstate transportation of birds of the parrot family by common carriers to those certified by the proper health authority of the state as coming from aviaries free from infection.

A medical officer of the Public Health Service, at the invitation of the California State Department of Public Health, within the recent past made a careful study of the situation in California with reference to parrot fever infection and the breeding of birds of the parrot family in that State. Conclusive evidence was thus obtained which indicates that psittacosis, or parrot fever infection is present in some of the breeding aviaries of Southern California. Parrots and parrakeets from this source have probably been one of the important means of spreading the disease to other states. The cases occurring in Minneapolis and Boise were traced to California birds as well as previous cases this year reported from New York City and Oregon.

An outbreak of psittacosis or parrot fever occurred in the United States during the winter of 1929-1930. One hundred and sixty-three cases were reported at that time, with thirty-three deaths. Practically all of these cases were traced to association with recently acquired parrots and parrakeets.

* * *

California State Board of Health Order

Strict Quarantine Clamped in Fight on Parrot Fever

Sacramento, Oct. 7.—Public health officials of the state today began a war in earnest on the threat of psittacosis, a disease carried by birds of the parrot family, which has brought death or serious illness to several persons in the West this year.

At the direction of Dr. Giles S. Porter of the State Department of Public Health, strict quarantine regulations were put in force today, prohibiting removal of any bird of the parrot family from premises where it is kept. Doctor Porter asked for an emergency fund of $15,000 to finance destruction of all infected birds in a campaign to wipe out psittacosis.—Los Angeles *Herald-Express.*

* * *

What the Pet Dealers' Association Affirms

False Bird Fever Warnings Charged

Charges that organizations unfriendly to California are circulating anonymous "warnings" to tourists to stay away from California because of a supposed parrot fever epidemic were filed with the Los Angeles Chamber of Commerce today by I. S. Horne, president of the Pet Dealers' Association of California. . . .

Officials of the association declare that there is very little parrot fever, if any, in California. Parrot fever, they asserted, is a very rare disease and is not nearly as deadly as pictured. Medical records show that there have been fewer than one hundred human deaths from the disease in the last fifty years, according to the bird lovers. . . .

Announcement was made today by Dr. Giles S. Porter, State Director of Public Health, that local health officers are to have charge of the quarantine of birds of the parrot family having parrot fever, instead of the state officers performing this work.

Only birds known to be infected will be quarantined and none will be destroyed without consent of the owner, Doctor Porter stated. Birds other than those of the parrot family are not affected by this order. Doctor Porter said his announcement was in reply to false rumors that the State Health Department had ordered all parrots destroyed.

Officials of the Pet Dealers' Association point out that parrot fever is a tropical disease, and claim that it is virtually impossible for it to enter this country because of unusually strict quarantine at ports of entry.—Los Angeles *Times.*

* * *

Apropos of the above, an Associated Press dispatch from the United States Public Health Service, released after the above copy was sent to the printer, adds additional information. Quotation follows:

Parrot Fever War Extended

Federal Laboratory to Be Set Up in Southland
Cumming Tells of Fight by Health Service
Cases Traced to Aviaries in This Section

Washington, Oct. 20. (AP)—A parrot fever laboratory in Southern California where science may explore mysteries of this disease, so new but dramatic in history, is planned by the Public Health Service.

Surgeon-General Hugh S. Cumming of the service, in announcing this today, said Secretary Mills had allotted $10,000 to further research in psittacosis out of a Treasury fund for preventing the spread of epidemic diseases.

Dr. H. E. Hasseltine, one of two Washington psittacosis research experts whose blood was used in the successful convalescent serum treatment of Mrs. William E. Borah in Boise, Idaho, has been assigned to make the study. Dr. V. M. Hoge will be his assistant.

To aviaries in Southern California have been traced recent cases in Minnesota, Idaho, Oregon, Wisconsin, and California, the Public Health Service said. Dr. Charles Armstrong, the other expert who also gave blood for the wife of the Idaho Senator, is now in Wisconsin, studying six cases reported in that state.

"A very interesting evidence of the close intercommunication of continents, so that one part of the world is threatened by the disease in any other part," Doctor Cumming said in describing psittasosis from his personal acquaintance.

It began, he said, about three years ago, with a Sunday supplement story. It has been written since in headlines, with such dramatic events as the illness of three of the famous scientists who studied it; and the flying of serum to Mrs. Borah from Washington by airplane, with instructions for her treatment transmitted by telegraph.

"This Sunday supplement told of an opera troupe in the Argentine attacked by a strange disease, after a performance in which birds were used as 'props,'" Cumming said. "I read it, with no particular sense of significance, and an Annapolis doctor read it the same way.

"But the very next day he noticed a sick parrot in the home of two patients whose ailment he had been unable to analyze exactly. He asked information of the health officer, and the Governor's office called me about it. I sent Doctor Armstrong over, and from that day on we have been finding out about, and fighting, psittacosis."

The parrots brought into the Public Health Service laboratories here caused an epidemic in which eleven laboratory workers were stricken, one fatally.—Los Angeles *Times.*

A PROPOSED M. D. LICENSURE BILL

The following licensure bill was presented to the California Legislature in 1923. It is referred to in a letter of date of January 11, 1932, which is appended to the minutes of the Council meeting of January 16, 1932. For the report of the legal counsel, Mr. Peart, see page 446 of the June 1932 California and Western Medicine.

Senate Bill No. 330

Introduced by Senator Hurley

January 30, 1923.

Referred to Committee on Public Health and Quarantine.

An Act to provide for the examination and licensure of doctors of medicine (M. D.'s) for the practice of medicine and any and all of its specialties, including the prevention and treatment of any and all kinds of infirmities, injuries and mental and physical diseases and conditions of human beings and for the regulation of the practice thereof; to establish a doctor of medicine (M. D.) bureau of licensure and provide for the appointment of the members thereof, and prescribe their powers and duties.

The people of the State of California do enact as follows:

Section 1.—A self-sustaining bureau of licensure, examination and regulation of the practice of medicine by persons who hold the degree of doctor of medicine (M. D.) from accredited institutions of learning and to be known as "The doctor of medicine (M. D.) bureau of licensure of the State of California," termed herein the bureau, to consist of five members, is hereby created and established. The governor shall appoint the members of said bureau from a list of persons eligible under the terms of this act within thirty days after the filng of such list herein provided. The deans of Leland Stanford Junior University school of medicine, University of California medical school and the College of Medical Evangelists and the chairman of the council of the medical society of the State of California shall file such list with the governor and at his office within thirty days after passage of this act. Such deans and said chairman shall thereafter and in the month of December of each year, file a list of such persons eligible for appointment with the governor and at his office and the governor shall fill all vacancies occurring on said bureau during the ensuing year from such list.

No person shall be appointed to such bureau who is not a citizen of this state holding the degree of doctor of medicine (M. D.) from an institution of learning, the requirements of which at the time of conferring such degree were in no particular less than those prescribed by the association of American medical colleges or the council on medical education and hospitals of the American Medical Association.

The term of office of each member shall be five years; provided that of the first bureau appointed two members shall be appointed for one year, two for three years and one for five years and that thereafter all appointments shall be for five years, except that appointments to fill vacancies shall be for the unexpired term only. Each member of the bureau, before entering upon the duties of his office, shall take the constitutional oath of office.

The governor may remove any member of the bureau for continued neglect of duty or for dishonorable or unprofessional conduct, which shall be deemed to consist of any of the acts hereinafter set forth as grounds for revocation of certificate, as set forth in section four hereof, upon the written certification of such conduct by a majority of said deans and chairman.

Sec. 2.—1. The bureau shall be organized on or before August 1, 1923, by electing from its number a president, a vice-president and a secretary who shall also be the treasurer, who shall hold their respective offices during the pleasure of the bureau. The secretary-treasurer shall make and file with the bureau an official bond, with corporate surety approved by two other members of the bureau, in the penal sum of ten thousand dollars conditioned for the faithful discharge of his duties according to law.

2. The office of the bureau shall be in the city of Sacramento. Sub-offices may be established as required in Los Angeles and San Francisco, and such records as may be necessary may be transferred temporarily to such sub-offices.

3. Legal proceedings against the bureau may be instituted in the county of Sacramento, the county of Los Angeles and the city and county of San Francisco.

4. It shall require the affirmative vote of three members of the bureau, except as herein otherwise expressly provided to elect its officers, to carry any resolution, to adopt any rules, pass any measure or to authorize the issuance or the revocation of any certificate.

5. The bureau shall keep an official record of its procedures, a part of which record shall consist of a register of all applicants for certificates under this act, all certificates issued and to whom, and of all certificates revoked, together with any action of the bureau in reference to any of said matters and through its secretary shall make an annual report to the governor showing its receipts and disbursements, general financial status and such other facts as are necessary for a complete understanding of the operation of the bureau.

6. The bureau shall file in the month of January of each year in the office of the county clerk of every county in this state a list of persons then holding valid and unrevoked doctor of medicine (M. D.) certificates theretofore issued by the bureau and a list of all persons whose certificates have been revoked during the preceding year.

7. The bureau shall compile and publish annually a complete directory giving the names and addresses, educational attainments and specialties, if any, practiced by each doctor of medicine (M. D.) licensed by the bureau.

8. All fees collected by or on behalf of the bureau and all its receipts of every kind and nature shall be reported by the bureau at the beginning of each month preceding to the state controller and at the same time the entire amount shall be paid into the state treasury and shall be credited to a fund to be known as the doctor of medicine (M. D.) bureau of licensure contingent fund, which fund is hereby created. Such contingent fund shall be for the use of the doctor of medicine (M. D.) bureau of licensure and out of it but not otherwise shall be paid all expenses of the bureau.

9. The bureau shall have power:

(a) To adopt a seal which shall have inscribed upon it the following: "The Doctor of Medicine (M. D.) Bureau of Licensure, State of California," with such appropriate design as the bureau may select.

(b) To adopt from time to time such rules and regulations as the bureau may deem necessary for the performance of its work.

(c) To issue and revoke doctor of medicine (M. D.) certificates and to examine applicants therefor as herein provided.

(d) To summon witnesses and to take testimony in any matters pertaining to its duties and each member shall have power to administer oaths and take affidavits.

(e) To pay the actual expenses of the members of the bureau in connection with official business.

(f) To fix and authorize a salary to its secretary in such sum per month as the remaining members of the bureau shall from time to time fix and determine, and the governor approve, and to employ and compensate such clerks and other assistants as are necessary to carry out the provisions of this act, provided the fees and other receipts of the bureau are sufficient to meet the expense and provided the same is approved by the governor.

(g) To require licentiates of the bureau to furnish such information as is necessary to enable it to com-

(Continued on Advertising Page 24)

TWENTY-FIVE YEARS AGO*

EXCERPTS FROM OUR STATE MEDICAL JOURNAL

Vol. V, No. 11, November, 1907

From some editorial notes:

Apropos of Plague.—In Los Angeles, in San Jose, in Stockton, in Sacramento, as well as in San Francisco, there have been meetings of the local medical societies where the subject of plague was discussed. That is eminently well. There is just one way, and one only, of determining whether or not plague exists in any place; and that is by a careful inspection of all dead persons over a period of months. . . . And this inspection must be made by one who knows. We know that plague, in the early years of an epidemic, is a very insignificant thing, so far as the number of cases is concerned. We also know that it is not difficult to eradicate, in these early years, if we know that it exists. How long did it exist in San Francisco before it was recognized? Nobody knows, for its discovery was almost, if not quite, accidental and it was some time before any systematic examination of the dead was enforced. We all know the history of that former epidemic; the shameful history of denial and concealment and the near approach to "shotgun quarantine. . . ."

Shall We Do It?—Two things alone are certain; where there are plague-infected rats or squirrels there will occur occasional cases of plague in man; and where there are cases originating of plague in man there we will find plague-infected rats or squirrels.

Enforce the Law.—Once again the journal feels called upon to emphasize the fact that all laws regulating the practice of medicine are police measures intended for the protection of the public against predatory greed and ignorance. . . .

From an article on "Plague" by William Simpson, M. D., San Jose.

That in the fleas of rats and mice we may find the bacillus of plague, was announced in 1897, giving plague to mice by inoculating them with infected fleas. That this bacillus may be inoculated into rats and mice by the bites of fleas is very possible, and it is proved that the fleas of rats and mice transmit the disease to man.

From an article on "The Evolution of the Disease Entity Called Manic-Depressive Insanity, and Its Main Features" by A. W. Hoisholt, M. D., Stockton.

The term "mania," which was in use at the time of Hippocrates, was derived, according to Esquirol, from a word signifying moon, from which the Greeks coined the word "maniac," moon-struck and the Latin's lunatic, words which are still in common use today.

From an article on "Medical Testimony" by Dr. S. B. Lyon, San Jose.

The author calls attention to the present unfortunate and rather humiliating condition into which medical expert testimony has fallen, and points out the manner in which the average physician when placed on the witness stand is made to appear as a mere plaything of the attorneys in the case. He does not believe that this is due to the fact that the average physician knows less medicine than the best lawyer, but he believes that it is due to the fact that the average lawyer prepares himself most carefully and, on the particular points at issue, is in court a better physician than is the best physician a lawyer. In other words, the physician seldom tries to know well the relation of his profession to the law. . . .

From County Society Reports:

Los Angeles County.—At the meeting of the Los Angeles County Association held October 11, the general subject of discussion was plague. Dr. C. B. Nichols delivered the principal address, and reviewed the etiology, pathology, symptoms, modes of transmission, and prophylaxis. The discussion was further continued by Dr. N. K. Foster, secretary of the State Board of Health, who dilated upon what was being done in San Francisco and elsewhere to limit the spread and eventually eradicate the disease. . . .

From a report on California Pure Food Commission by George H. Kress, Secretary, Los Angeles.

The organization of the Pure Food Committees throughout the state has been making splendid progress. . . .

Last, but not least, we are able to chronicle the successful outcome of our battle with the Los Angeles Gas and Electric Company, which corporation and the railroads the Commission has been fighting for the last six months in an effort to do away with the smoke nuisance of Los Angeles. This nuisance has become a grievous evil in the south, and the successful outcome of the battle with the gas and railroad companies is a decidedly pleasant condition of affairs, for these companies have dominated the City Council for years.

In spite of the many delays the final vote was taken on the ordinance, every councilman voting for the ordinance. Why? Because the agitation had centered the attention of the public on the ordinance, and as the public were in favor of the ordinance the councilmen did not dare to vote against it.

CALIFORNIA STATE DEPARTMENT OF PUBLIC HEALTH

Plankton Nuisance.—In the spring, for the past three or four years, complaints have been received of odor nuisances in the coves along the Marin County shore of San Francisco Bay. An investigation made last year shows that it was due to the presence of a microscopic alga. Its return has been watched for this spring, and about the middle of May the growth began to appear, until at the present time it is so thick that it rolls up as a thick sludge in nearly all of the coves. There are thousands of tons of this growth. As it begins to die it gives off hydrogen sulphid and heavy odors of protein decomposition. For the growth of this alga, the requirements are much silica and slight sewage pollution, sunshine and warm weather. It is possible that it may be growing widely in the San Francisco Bay and only because winds blow it to the Marin shores does it become troublesome there. It constitutes an odor nuisance only.

Organized Recreation Involves Responsibility.—The maintenance of summer camps and recreation places for both children and adults involves considerable responsibility from a public health point of view. It is understood that adequate sanitary equipment must be provided in all such places, that complete provision be made for the proper disposal of all waste, including garbage, and that a supply of pure drinking water be available at all times. The responsibility of the management of such places does not end with the provision of these facilities alone. It is unsafe to employ any individuals in the handling and distribution of foods unless such individuals have been able to pass a rigid physical examination. Furthermore, particular attention should be paid to the proper storage of foodstuffs. . . .

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* This column strives to mirror the work and aims of colleagues who bore the brunt of state society work some twenty-five years ago. It is hoped that such presentation will be of interest to both old and recent members.

Oakland Health Department Holds Open House.—Early in August the city government of Oakland held an open house in order that the residents of that city might have an opportunity to learn how municipal governmental functions are carried on. A total of twenty-five thousand persons came to the City Hall on that day and eight thousand of them visited the health department, where they learned in detail how the public health is safeguarded through communicable disease control, milk and food inspection, and all the various attributes of the modern municipal health department.

There is considerable merit in this idea, and many other cities might well follow the Oakland plan in order that their residents may have better opportunities to learn the type of activities that are maintained for the purpose of safeguarding the public health.

Highway Eating Places Inspected.—The following inspections were made of highway eating places and service stations along highways of California:

Santa Cruz County. Inspected, 31—Satisfactory, 11; minor defects, 14; insanitary conditions, 3.

Reinspected, 32—Improvements made, 27; insanitary conditions, 5.

Gas service stations inspected, 7—Satisfactory conditions, 5; insanitary conditions, 2.

Auburn Road, Alta to Roseville. Inspected, 40—Satisfactory, 10; minor defects, 16; insanitary conditions, 13.

Reinspected 3, where improvements had been made. Gas service stations inspected, 9—Conditions satisfactory, 5; minor defects, 4.

Redding-Alturas Road. Inspected, 29—Satisfactory conditions, 5; minor defects, 9; insanitary conditions, 15.

Bishop and June Lake Highway. Inspected, 7—Satisfactory conditions, 4; minor defects, 2; insanitary conditions, 1.

The total number of food supply houses along highways inspected and reinspected during August was 139. In nearly all cases where unsatisfactory conditions had previously been found, improvements had been made before reinspection.

Oiling Mosquito-Breeding Marshes by Airplane.—(A report on an experimental demonstration conducted by the Alameda County Mosquito Abatement District.) A demonstration of oiling by airplane was made on Thursday, June 23, 1932, on the Plummer marsh, south of Newark. The plane was a specially equipped biplane furnished by Independent Crop Dusting, Inc., which they had developed for the application of liquid sprays for crop pests. . . .

With these mechanical difficulties removed, the method of airplane application of oil for destruction of mosquito larvae and pupae appears to have usefulness under the following conditions:

1. In oiling areas in early spring, when the dirt roads on and leading to the marshes are so soft that transportation of oil is impossible or very difficult.

2. In oiling large areas at other times of the year which have become flooded at extreme high tides, and where time is not available to cover such large areas on foot.

Under these conditions, airplane oiling can be made to compare with hand oiling in both cost and effectiveness.

The limitations of the method are as follows,

1. It is not economical or effective where there are small, isolated breeding places in a marsh, with large areas of nonbreeding ground between.

2. Under the weather conditions which usually prevail on the bay marshes, only a few hours in the early morning can be utilized for flying.

BOARD OF MEDICAL EXAMINERS OF THE STATE OF CALIFORNIA

By Charles B. Pinkham, M. D.
Secretary-Treasurer

News Items

Reports relate that on June 6, 1932, Charles M. Stewart, M. D., pleaded guilty in the United States District Court of Los Angeles on a charge of violation of the Harrison Narcotic Act, and on May 26 was sent to the psychopathic ward of the Los Angeles General Hospital, where he was declared sane.

"Accused of employing his nine-year-old son to transport narcotics for him, Dr. Simon Zachariah, fifty-five, for thirty years a physician here, was arrested yesterday by state narcotic agents. . . . At the same time the agents arrested John C. Hildreth, fifty-three, a druggist of 2998 Mission Street, and charged him with conspiring with the physician to violate the State Poison Law . . ." (San Francisco *Examiner*, May 5, 1932).

"Dr. Charles M. Stewart of 609 South Grand Avenue, today was facing trial on a federal grand jury indictment returned yesterday, charging him with violation of the Harrison Narcotic Act. Chris Hansen, chief of the local narcotic bureau, who arrested Doctor Stewart several weeks ago, asserted he seized a small quantity of 'dope,' a pistol and several hundred pounds of ammunition. Hansen claimed the doctor distributed narcotics to addicts . . ." (Los Angeles *Herald and Express,* May 12, 1932).

Investigation reports relate that Anna Hofer in the Justice Court of Dinuba, Tulare County, on July 15, 1932fi pleaded guilty on a charge of violation of the Medical Practice Act and was given a ninety-day suspended jail sentence on condition of no further violation of the Medical Practice Act.

"Robert Cavenagh, member of a 'confidence gang,' which swindled Charles Zeh of Antelope out of $9,989 by the sale of a 'radium belt,' pleaded guilty yesterday after a jury had been selected to try him before Judge Martin I. Welsh and threw himself upon the mercy of the court. Judge Welsh will receive the probation report on August 16. The change of plea came before the state could begin the introduction of evidence. Attorney T. A. Farrell, in asking probation for Cavenagh, told the court that Cavenagh only acted as chauffeur for two other members of the 'confidence ring' and that more than $5,000 of the money was paid before Cavenagh was engaged. The 'radium belt' was to cure the eyesight of Johanna Zeh, Zeh's sister. The other members of the ring are still at large." (Previous entry, Eyesight Swindlers, California and Western Medicine, February and May, 1926; May, 1927; April and May, 1929; January, March, April, May, October, and December, 1931; January, April, May, and June, 1932.)

"Robert Cavenaugh must serve two years in the county jail for the part he played in swindling Charles Zeh, Antelope rancher, out of $9,989, which Zeh paid for 'treatment' of the eyes of his sister, Mrs. Johanna Zeh. Superior Judge Martin I. Welsh placed Cavenaugh on probation today for five years, staying a sentence in San Quentin Prison, but imposing the jail sentence. Cavenaugh also promised the court that he would testify for the state if his companions in the swindle were captured. Eddie Connors and Matthew Wilkinson are being sought by the police. Cavenaugh, Connors, and Wilkinson are alleged to have been members of the ring which is alleged to have made a practice of swindling aged persons by giving 'medical treatments' " (Sacramento *Bee*, September 15, 1932). Cavenaugh is said to be one of the "gang" of eyesight swindlers that have been under investigation by the Board of Medical Examiners for several years.

"Dr. Frank L. Burleigh was found guilty by Judge Clifford Thompson this morning of practicing medicine without a license. . . . Many character witnesses were introduced, all of whom testified . . . that they knew Burleigh was at liberty under parole on a manslaughter charge" (Burbank *Review,* August 6, 1932).

Doctor Burleigh's license was revoked February 26, 1929. (Previous entries, September, 1926; December, 1928; February, 1929.)

"Following an investigation of an alleged fake cancer cure, the county grand jury last night voted to indict Dr. Pedar Sather Bruguiere, physician, artist and scion of one of California's most noted families, and James Morgan Clement, his asserted associate in operation of a 'cancer hospital.' Both are charged with conspiracy to violate the State Medical Practice Act . . . " (San Francisco *Chronicle,* August 23, 1932).

According to the San Francisco *Chronicle* of August 22, 1932, H. J. Anslinger, U. S. Commissioner of Narcotics, Washington, D. C., recently stated in San Francisco, that "Although California is on a frontier in a battle that is constantly being waged to suppress importation of the dreaded contraband (narcotics), the enforcement situation here is more effective than in any other State. . . . The assistance accorded by the State Medical Board was described by Commissioner Anslinger as exceptional compared to that elsewhere in the country. . . . "

"Dr. Robert H. MacLauchlan, San Francisco surgeon, was given probation today by Federal Judge William B. Sheppard on his plea of guilty to forging narcotic prescriptions. Probation was given on condition that Doctor MacLauchlan would return at once to Canada, where he said his father is a prominent Alberta surgeon, and take treatment for narcotic addiction, according to the Associated Press" (San Francisco *Call-Bulletin,* September 2, 1932). Doctor MacLauchlan's license was revoked July 14, 1932. Previous entries, December, 1930; July, 1931.)

Reports relate that J. C. Cowle, unlicensed chiropractor, who assertedly advertises professional courses given in his "National University of Kiropathic Physicians and Surgeons," was recently found guilty of violation of the Medical Practice Act in Los Angeles and on August 31 was sentenced to pay a fine of $300 or serve thirty days in the city jail. He was committed to jail. (Previous entries, July and September, 1929; October, 1931; May, 1932.)

G. Edwards was on August 20, 1932, reported as having pleaded guilty in Justice Court, Venice, to a charge of violation of the Medical Practice Act and sentenced to pay a fine of $100 or serve two hundred days in the county jail, the jail sentence being suspended and defendant placed on probation for six months.

A. E. Hunt is reported to have been recently found guilty in the Justice Court of Riverside of a violation of the Medical Practice Act and sentenced to pay a fine of $50, sentence being suspended on condition that he no further violate the Medical Practice Act.

"Seized in an investigation by the State Board of Medical Examiners, an unusual device, said to have been used in diagnostic work, aroused much interest yesterday in the State Building. The device was made out of what appeared to be a small ironing board, two rubber heels, a radio tube, and a vacuum cup. A number of hot dishpans, on the sides of which were drawn representations of parts of the human body, apparently were used in conjunction with this apparatus. As a result of the investigation, warrants were issued . . . charging Mrs. L. H. Young of 723 West Thirty-first Street and Barry Johnson of 317 Carroll Park, Long Beach, with practicing medicine without a license" (Los Angeles *Times,* September 7, 1932). Our investigator reported that "Mrs. Young tests her patients by having each patient put all five fingers of one hand on a number of glass pegs in this device. The vibration from the patient is supposed to enter the operator and cause an attached pendulum to rotate. If it rotates in one way, it means 'yes'; if it rotates the other way, it means 'no.'" Barry Johnson, one of the students, is said to have examined a fifteen-year-old girl, telling her, after said examination, that "she had a black kidney, inflamed tubes in her throat, a leaking heart valve, hardening of the arteries, and that her blood was not quite right." To cure these various afflictions he allegedly sold her $9.50 worth of tablets, telling her that she must take fifty tablets a day and report back in two weeks, that he might give her "some medicine for her blood."

"V. M. Krause and his assistant, Mrs. Hinton Butler, were arrested last night and released on charges of violating the State Medical Act. The arrest took place during a lecture by Krause in which he is charged with saying that he could create cell life and heal cell deficiencies by means of chemical salts" (Glendale *News Press,* October 6, 1932).

"For the second time within a week, Dr. Nathan S. Houseman, close friend and personal physician of Frank J. Egan, yesterday was arrested for alleged violation of the State Narcotic Act. Doctor Houseman surrendered and was booked at the city prison on a warrant sworn to before Municipal Judge Lazarus by State Agent F. J. A. O'Ferrall. Houseman was immediately released under $250 bail. The specific complaint against the doctor was his alleged failure to report the disposition of eighty tablets of morphine purchased March 9, last . . ." (San Francisco *Examiner,* October 14, 1932).

"A suit to revoke the corporate franchise of the San Francisco College of Chiropractors and Drugless Surgeons was filed in Superior Court yesterday by the State of California. The action followed complaint made to Attorney-General Webb that the college defendant had exceeded its legal rights in teaching subjects incompatible with the laws covering chiropractic practice" (San Francisco *Chronicle,* October 12, 1932).

Despite previous warning given in these columns, the San Diego *Union* of October 3, 1932, relates that "San Diego medical men are being victimized by a man who is visiting physicians under pretense of representing 133 small insurance companies who have no appointed medical examiners in San Diego. The man says that for $3.99—three cents a company—the local physician will have his name listed in a directory from which the insurance companies can choose physicians to serve as insurance examiners. . . . The medical association has learned that the company which the man represents does not exist . . ." (San Diego *Union,* October 3, 1932).

"A Los Angeles County deputy sheriff today took into custody Robert Birch on a five-year-old warrant charging him with murder as the result of the death of Violet Lemessieur after an allegedly illegal operation, June 27, 1927. Birch has lived in Georgetown for the last two years" (Sacramento *Bee,* October 5, 1932). According to the records of the Board of Medical Examiners, Robert Birch has been in difficulties before, and holds no license entitling him to practice in this State.

"Arrested by William A. Byrne, special agent of the State Medical Board, Roberto Sanchez, 419½ North Main Street, yesterday was sentenced to jail for 180 days and to pay a $500 fine for violating the Medical Practice Act. It was alleged he sold 'love powders' and luck charms at the Main Street address" (Los Angeles *Examiner,* October 1, 1932).

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PRINCIPLES OF PROPHYLAXIS AGAINST TYPHOID FEVER, WHOOPING-COUGH, SCARLET FEVER AND SMALLPOX*

By KARL F. MEYER, Ph. D.
San Francisco

DISCUSSION *by E. B. Shaw, M. D., San Francisco; Henry Dietrich, M. D., Los Angeles; Clifford Sweet, M. D., Oakland.*

DURING the nineteenth century various principles have been used in the prevention of disease and premature death. At first the efforts were largely directed against the means of transmission. In this sphere of activity the prevention of the infections of the alimentary tract and certain insect-borne maladies has been notably successful. Later in the nineteenth century, reliance was placed upon isolation in hospitals or at home, and upon disinfection. In the twentieth century, it has been recognized that the suppression of respiratory diseases or those in which subclinical infections and carriers are frequent is greatly aided by artificial immunization. With unremitting insistence it must be emphasized that each mode of prevention has its own sphere and one which has limited possibilities of success. A brief discussion of the two prophylactic procedures—isolation and the attack on the transmitting agent—logically precedes any consideration of the merits ascribed to the raising of the resistance by artificial means.

ISOLATION

The great success of isolation against smallpox, typhus, and to a less extent typhoid, encouraged the hope that scarlet fever and diphtheria could be suppressed in a like manner. The history of the past fifty years clearly shows the fallacy of this belief. A search for carriers was then instituted with the hope that the two diseases might be eradicated. While subclinical cases are doubtless very frequent in diphtheria and scarlet fever, the numbers of temporary and chronic carriers render it quite improbable that a policy of isolation and disinfection will ever be successful. In typhoid and smallpox, the success of isolation is associated with other means of attack upon the mode of transmission and by immunization. In some quarters, isolation was advocated in the prevention of whooping-cough and measles. Owing to the high infectiousness during the prodromal stage, numerous secondary cases arise before the nature of the primary case is recognized. Isolation is therefore, doomed to failure, although the daily observation of the contacts and isolation upon the first symptoms of illness is possible, provided the symptoms are severe at the onset. These few examples clearly indicate that the value of isolation is definitely restricted to the acute diseases which can be diagnosed with facility at an early stage and to those maladies in which frank attacks are the rule and subinfections are rare.

In this connection attention is called to the claims of Chapin[1] that hospital isolation of scarlet fever has been one of the factors in the great reduction of the fatality that has occurred in this disease. Holst[2] as a result of a more intensive study in Norway, finds no reason to believe that isolation has materially diminished the frequency of scarlet fever. Based on a careful statistical study Woods[3] concludes that: (*a*) The decline in incidence of and mortality from scarlet fever has been as great in towns with little isolation as in those where a majority of cases are hospitalized; (*b*) It cannot be shown that, during the period studied, isolation has had any effect, good or bad, upon the mortality from scarlet fever. These deductions are probably true, but generalizations are not justified. Doubtless, in such diseases as smallpox the isolation of the severe cases tends to eliminate the more virulent strains of the virus and permits the least virulent, immunizing strains to be perpetuated.

Isolation at home is usually effective in relation to outsiders, but quite difficult to enforce in relation to other members of the household. The placarding of a house presupposes the principle of bed isolation within the household supplemented by disinfection of the utensils, excreta, etc. Such precautions are frequently impracticable, and consequently ineffectual.

The limitations just outlined for the isolation of cases apply with equal force to the control of contacts. Modern public health practice takes into consideration the susceptibility or non-susceptibility of the contact before a decision is reached relative to the control which is to be enforced. The introduction of the Schick test has greatly modified the control procedures of the past. Although the control of convalescent and chronic carriers is greatly facilitated by keeping them in isolation until bacteriologic examination shows them to be free from infection, it is fully recognized that this principle has its limitations. Thus Kirkbride, Wheeler and West [4] and Glover and Griffith [5] have clearly shown that a system of isolation for scarlet fever, based on a bacteriologic examination, is impracticable and disappointing, since the absence of hemolytic streptococci is no guarantee that "return" cases will not occur. Even in typhoid fever the supervision of the carrier is connected with insurmountable difficulties when the occupation involves the handling of foodstuffs.

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* From the Hooper Foundation for Medical Research, University of California, San Francisco.

* Read before the Pediatric Section of the California Medical Association at the sixty-first annual session at Pasadena, May 2-5, 1932.

ATTACK ON TRANSMITTING AGENT

With few exceptions the most successful mode of prophylaxis has been that directed against the transmitting agent or vehicle. The progressive suppression of alimentary infections is largely attributable to these methods; their effect is less marked in those diseases where contagion, direct or indirect, is operative. It is usually ineffective in the droplet-borne respiratory infections.

The control of alimentary infections requires that the excreta shall be so disposed that there is no risk of conveyance by water, fingers, or flies. In practice this resolves itself into the substitution of safe for unsafe water supplies, the isolation of acute cases, the control of known carriers, and the supervision of the milk and meat trades, where the risk of contamination is greatest. In civilized urban communities the disposal of excreta by water carriage renders them inaccessible to flies, but in rural districts the suppression of the fly is still a problem which deserves further investigation.

Since indirect contagion is one of the most frequent means of transmission of disease, every child should be instructed in the proper washing of hands. The spread of typhoid dysentery in the home is largely preventable by this simple method. Probably the spread of respiratory infections by the hand occurs with greater frequency than is ordinarily suspected. The chain of contagion can be broken by the frequent washing of hands.

Thus far little progress has been made in the prevention of the droplet-borne infections by an attack on the transmitting agent. Improvements in ventilation and in the general standard of conduct which reduces careless sneezing, coughing, etc., to a minimum will help to prevent many of the common infections. A full appreciation of the detrimental factors of overcrowding and the general adoption of open-air schools may in time reduce the incidence, but the success is likely to be partial and impermanent in the majority of the respiratory infections.

SPECIFIC IMMUNIZATION

Since the preventive measures just outlined have limited possibilities of success, the public health worker is compelled to utilize the third mode of attack, namely, the specific immunization of the individual and of the population masses. It was by this means that Jenner effected at one stroke the greatest single success of preventive medicine. Then again, the prevention of certain alimentary infections, notably typhoid, by means of vaccines has been achieved rapidly and effectually upon the largest scale in recent years under circumstances which prevented the application of sanitation on an effective scale. Time forbids even a brief discussion of the newer aspects of natural nonspecific resistance and acquired resistance specific in character, and acquired as a result of exposure to the living specific parasite or to its products. By request the paragraphs to follow will deal with the present status of specific artificial immunization of the individual against typhoid fever, whooping-cough, scarlet fever, and smallpox as applied to everyday pediatric practice.

TYPHOID FEVER

Through the studies of Grozer, Griffith, Stowell and others, it is now fully appreciated that typhoid is much more common in childhood than was formerly supposed. Again, the mortality rate is high in infancy, while in the older age group it is milder but tends to incapacitate the child for several weeks. Although typhoid fever is constantly decreasing throughout the United States, it still remains a problem in rural communities. The persistence of unrecognized carriers and the increasing importance of milk as a disseminator of the infection precludes the possibility that this malady will be eradicated in the near future. The annual vacation period offers many opportunities for the children to contract typhoid fever. These unfortunate incidences may be largely prevented by vaccination. Prophylactic typhoid inoculations have been put to many severe tests and, although they have proved their value, no one can say that they give complete protection or that they give as good a protection as is possible. The experiences of the United States Navy may be cited in this connection. The mean annual death rate from typhoid fever in the United States Navy for the years 1900-1911 was, according to Pryor,[6] 41.2 per 100,000. Compulsory inoculation was begun in February, 1912, when the death rate dropped abruptly and the mean annual death rate for 1912-1926 has been only 1.51 per 100,000. A further example of the efficacy of inoculation is supplied from the Virgin Islands, where compulsory vaccination of the native population stamped out an epidemic in 1918, since when the disease has not reappeared. Many more examples could be cited, but suffice it to state that the procedure as now practiced has, according to a recent report of the League of Nations, strikingly reduced the mortality among the men who were vaccinated during military service. Although there is room for improvement, the preventive typhoid inoculation is rational and harmless and should be used on children. Many physicians are concerned relative to reactions which may follow the subcutaneous injection of the dead bacilli and, consequently, advise against its use. Doubtless, many of the unpleasant reactions are due to improper dosage or to the wide spacing of the inoculations over several weeks. In more recent years, attempts have been made to substitute the subcutaneous injection of dead typhoid bacilli by the so-called bilivaccines, orally administered. Numerous reports in the French and Italian literature attest to the usefulness of the Besredka oral method, but on theoretical ground it is reasonable to conclude that it is less effective than the subcutaneous administration. In fact, Lubinski,[7] in a recent analysis of the available data, concludes that the evidence is not such as to justify the substitution of the oral for the subcutaneous route for the purpose of routine prophylaxis of typhoid fever. Furthermore, the simultaneous ingestion of ox bile may, in some children, give rise to digestive disturbances. Under the influence of the war experiences, a triple vaccine, containing the paratyphoid A and B and the typhoid antigen, has been recommended. Since paratyphoid fever is relatively rare, the single typhoid vaccine is now generally used. The dosage for children from five to twelve should be 100,000,000 for the first, 200,000,000 for the second, and 500,000,000 for the third. Even smaller doses are known to induce excellent protection in those individuals who are immunologically mature. In case of special exposure, a greater number of injections in small dosage is highly recommended. The immunity induced by vaccination varies in degree and also in duration. It may come on gradually and persist for a short time. In general, experience has shown that protection cannot be depended upon to last much more than one year. At least, in children and adults below forty it is well to renew the immunization every two or three years under ordinary conditions. Protection against mass infection may be obtained by immunization at six months' interval. The present status of typhoid fever on the Pacific Coast does not require such an intensive protection.

WHOOPING-COUGH

Efficient isolation in whooping-cough presents difficulties, one of which is the long duration of the illness. The chief means for combating the disease, which at the present time exceeds in number of deaths that from diphtheria and scarlatina, are a bacteriological diagnosis and possibly inoculation. Valuable information concerning these two procedures have been made available by Madsen and his associates,[8] Chievitz and Meyer,[9] and Kristensen.[10] With the aid of the "cough plate," it has been shown that the Bordet-Gengou bacilli may be found in considerable numbers for quite a long time and then disappear in most cases during the fifth and sixth weeks. In view of these findings, school children in Denmark are permitted to return to school after the spasmodic cough has lasted for four weeks. The observations of Lawson and Müller [11] in Boston are similar. They contend that a lengthy quarantine is often unjust and irrational, failing to protect the community during the highly infectious stage, and needlessly restricting the liberty of the patients when they are no longer a source of danger. In theory, isolation for thirty days from the onset of the first catarrhal symptoms would be ideal, and would probably control the spread of infection in over 90 per cent of the cases. In all probability the use of "release cultures" would be an additional safeguard. The patient would be released from quarantine only when three cultures, taken on successive days, prove to be negative. An early diagnosis and prompt isolation of the patient and exposed susceptibles are probably the only reliable means of reducing morbidity and mortality. It is regrettable that the "cough plate" method has not as yet received general recognition in this part of the country. An effective prophylaxis against whooping-cough depends on an early bacteriologic diagnosis.

Conflicting reports of the value of prophylactic vaccination have been published, some considering it as being of little or no value, others maintaining that it possesses considerable preventive power. The earlier observations of Hess [12] and of Luttinger,[13] which attributed a certain prophylactic value to whooping-cough vaccination, have been amply confirmed by the work of Madsen in the Faroe Islands. He reports that in the course of a severe epidemic 2,094 patients were given three injections of vaccine. When compared with 627 patients who received no vaccine, the mortality among the latter was twelve times as great as among the vaccinated. In one district 20 per cent of those vaccinated escaped whooping-cough, while of 108 nonvaccinated only two failed to catch the disease. Bloom,[14] as a result of considerable experience, believes that pertussis vaccine confers considerable protection against attack. Of 338 vaccinated children only four contracted whooping-cough, although at least 70 per cent were exposed to infection. More recently Sundal [15] mentions very encouraging results with prophylactic vaccination in a children's home in which two of the children had begun to cough violently. A luxurious growth of pertussis bacilli, having been obtained from them on a blood-potato-agar medium after forty-eight hours, was used as a vaccine. There were thirty-two children in the home; ten of them had previously suffered from whooping-cough. The remaining twenty-two, including the two from whom the culture had been obtained, were given three injections each at intervals of four days, the dose being 0.5, 1, and 1 cubic centimeters of the vaccine, which contained one thousand million organisms per cubic centimeter. No attempt was made to isolate the first two patients, who were allowed to play and eat with the other children, only four of whom a week or two after vaccination developed conjunctivitis and bouts of coughing, without whooping. The cough ceased in about three weeks. The other children went free. These excellent results have not been duplicated even by Madsen, who gave prophylactic injections to 364 children, but all developed the disease in from one to three months. Similar failures have been recorded by Sauer and Hambrecht [16] in a series of one hundred cases in which a freshly prepared vaccine was given in doses of three, four, or five billion killed bacilli. In spite of the fact that it was given early in many cases, it failed to influence the course of the disease. All recent work suggests that the vaccine, to be of use, must be fresh and must be given in considerable doses at short intervals. Madsen recommends doses of 0.5 centimeter, 0.7 centimeter, and 1.0 centimeter at intervals of four days of a vaccine containing ten thousand million organisms per cubic centimeter. Since Kristensen and Larsen have found no material difference between the amount of complement-fixing antibodies following intramuscular or subcutaneous inoculations of the vaccine, it appearrs advantageous to use the intramuscular procedure which is followed by less severe reactions.

It is impossible to assess properly the value of the prophylactic vaccination against whooping-cough. However, the experiences reported from the Nordic countries are so striking that they cannot be dismissed. A plea is therefore made for a properly trained "team" to approach the subject with an open mind and diligently investigate the factors which have apparently been overlooked by those who reported unfavorably on the pertussis vaccination. In view of the disabilities and mortality caused by whooping-cough, such an undertaking would be of great value.

SCARLET FEVER

Various methods of preventing the occurrence and spread of scarlet fever have been tried in the past. Disinfection of the skin and throat (Milne treatment), isolation, disinfection of clothing, utensils, etc., all have been tried with little success. Since the *Streptococcus scarlatinæ* has been regarded as the cause of the disease, attention has been paid to the carrier problem. A review of the available information and personal observations on this subject show that it is exceedingly difficult for the bacteriologist to render a definite opinion as to whether a certain individual, whether convalescent or otherwise, is or is not a carrier of *Streptococcus scarlatinæ*. The isolation of definitely proved cases has given disappointing results.

The only method of preventing scarlet fever which holds out any promise of success in the recently adopted inoculation by means of vaccines or toxins of the specific streptococcus. The vast literature, already available, clearly indicates that active immunization lessens the number of cases and also the death rate (see Stallybrass [17]). A great deal of experimental work has been done with the so-called Dick toxin method. Since it was noted that the skin-test doses, originally used by Dick and Dick (1924) and Zingher (1924) for active immunization, were found to be insufficient, the American Scarlet Fever Committee recommended a course of five injections of toxin, namely, 500, 1,500, 5,000, 15,000, and 20,000 skin-test doses. During the past four years this method has been tried throughout the world. The general conclusions stress the following: (*a*) Statistics as to the efficacy of active immunization are unconvincing. (*b*) Active immunization with toxin injections, whereby a positive reactor is changed to a negative reactor, is slow and requires a course of injections over several weeks. (*c*) In order to avoid unnecessarily severe reactions in immunization with toxin, it is advisable to give five graduated doses at weekly intervals, commencing with 500 and increasing to 80,000 or 100,000 skin-test doses (Dick and Dick, 1929). (*d*) This procedure is a serious barrier to the acceptance of active immunization against scarlet fever by the general public. (*e*) The actual duration of active immunity conferred is not definitely known; it is believed to be at least three years. (*f*) Immunization with ricinoleated scarlet fever toxin has proved unsatisfactory. (*g*) The Dick test in its present form is essentially an allergic reaction due to a bacterial product with only slightly toxic properties. (*h*) The results of the Dick test cannot be regarded as an indication of the presence or absence of antitoxic immunity to the scarlatinal toxin. (*i*) Active immunization with the recently discovered heat-labile and heat-stabile toxin of Toyada, Moriwaki, and Futagi [18] is of great importance, but requires further substantiation. (*j*) Formalinized nontoxic Dick toxin—toxoid or anatoxin—yields very encouraging results.

Scarlatinal toxoid offers many advantages. The toxicity is destroyed and the preparation is perfectly harmless and can be injected in large amounts without causing any reaction. According to Progulski and Redlich [19] at least two injections are necessary, while McMahon [20] recommends three, and Toyada and his associates [18] four inoculations. Several investigators (Toyada, Debré, and Ramon [21]) have found that only 35 per cent of the children vaccinated remained Dick-positive and that among the immunized group many lost their immunity within a few months. In fact, the available data render it difficult to assess the degree of protection conferred by the injections of toxoid since frequently no cases of scarlet fever occurred among the vaccinated children in either Dick-positive or Dick-negative groups during the period of observation. A proof of the efficacy of antiscarlatinal inoculation with toxoid has not as yet been forthcoming, but there is every justification to continue the application of the method on a large scale, preferably before the occurrence of an epidemic.

Immunization with pure cultures of *Streptococcus scarlatinæ* has been tried in Poland and in Russia, where it was first introduced by Gabritchevsky in 1906. The literature is scanty, but most of the attention has been focused on the results of combined vaccines, *i. e., Streptococcus scarlatinæ* plus toxin. The extensive Russian literature has been reviewed by Korschun and Spirina,[22] and deals with observations on the immunizations of 61,820 children. They conclude that: (*a*) Immunization against scarlet fever considerably diminishes the morbidity and still more so the case mortality of scarlet fever. (*b*) Immunization with large doses of toxin, according to the American method, yields results which are at least as good as those obtained by the combined vaccine followed by toxin. (*c*) The toxin must be regarded as the active element of the scarlet fever vaccine and to it must be ascribed the principal part in the process of immunization. (*d*) If suitable dosage is employed, immunization takes place without any disagreeable manifestations and almost without any reaction. (*e*) The immunity does not diminish in the course of two years. A certain degree of diminution, however, has been observed by the authors in children aged from one to five years, and for that reason they recommend that immunization should be repeated the following year in children of about that age.

Local immunization with toxin has been reported on by Ramon and Zoeller [23] and Peters and Allison.[24] The method is free from the objections of inoculation, but it has not been sufficiently tried out, and it is not possible to draw any conclusions on this method until further investigations have been carried out.

SMALLPOX

Until a few years ago the prevention of smallpox was stated thus: "There is only one way to prevent smallpox and that is through vaccination. Isolation and disinfection are only secondary measures. They cannot be regarded as substitutes for vaccination." During the past few years the value of these principles has been seriously questioned on account of the recognition of two new developments: (*a*) A wide distribution of variola minor, and (*b*) the recognition of postvaccinal encephalitis.

Ever since 1922 epidemiologists have been struck by the mildness of smallpox which is characterized by an almost insignificant mortality among the unvaccinated as well as the vaccinated, and which, while presenting the clinical and pathological characteristics of smallpox, only occasionally proceeds after the rash to pustulation. This benign smallpox is generally known as variola minor or alastrim. Statistical data, published by the British Ministry of Health (1931) [25], indicate that the geographical distribution of the two types of smallpox is as follows: (*a*) Countries wherein the old virulent type of variola major is still prevalent (India and Far East); countries wherein at present the prevailing type is nonvirulent variola minor (the West Indies, parts of the United States of America and Canada). (*b*) Countries wherein both types coexist (England, Wales, Brazil, and some of the southern states of North America). The current administrative measures of prevention have been eminently successful in the case of major smallpox, but the control of the minor form along the same lines has not been equally successful. Many reasons for this failure may be mentioned. Errors in diagnosis are comparatively frequent, and cases are not properly recognized. But most important is the reluctance of contacts and others who are familiar with the mildness of the present type of smallpox to submit to the inconvenience of vaccination. The prominence which has been given to the occurrence of postvaccinal encephalitis has also influenced the acceptance of vaccination, even after exposure to infection. More and more, the antivaccination movement has advocated to leave variola minor alone without any official action of any kind for its prevention. The time has therefore arrived when the problem of smallpox prophylaxis, freed from formal compulsion by the public health administrator, is placed squarely upon the shoulders of the clinical side of the medical profession. Smallpox vaccination will, in the future, be administered according to the same principles as diphtheria toxoid immunization. Compulsory vaccination will be used only for the control of smallpox during an epidemic. Routine vaccination as a preventive measure may be limited to the infant population. The responsibility for the protection of the individual rests with himself, with his parents or with his physician or medical adviser. In place of compulsory administrative measures, an unbiased education by the family physician should acquaint the population with the safeguards which the individual or family can obtain by vaccination in infancy. Particularly in view of the problem of postvaccinal encephalitis, this proposal deserves immediate and earnest consideration.

Since 1905, occasional cases of encephalitis, following the primary vaccination of school children and adolescents against smallpox, have been noted in Europe, but not until 1922-1923 did the occurrence of these cases in series focus the attention of sanitary authorities upon this complication. Several investigating committees have diligently studied the relation of postvaccinal encephalitis to smallpox. Although the thoughts have not as yet crystallized, the conclusions of the committee on vaccination appointed by the British Minister of Health, under the chairmanship of Sir Humphrey Rolleston, are significant. In the second report, published in January, 1931, the committee finds that—

> "An acute nervous disease with a mortality of nearly 50 per cent continues intermittently to appear now here and now there with manifest disregard to the incidence of any known factor other than vaccinia. It is associated with characteristic changes in the brain and cord similar to those found in the acute nervous conditions occasionally following influenza, measles, and variola. Like them, it is dependent on a precedent infection but differs in that it follows the infection with great regularity within a definite limit of time. Although no particular lymph can be incriminated, it is clearly the vaccine virus, whatever its past history and in whatever medium incorporated, that initiates the nervous disturbance; but why this should be almost limited to a few individuals of a particular age group (the disease is relatively rare in infants under one year) is not known."

The countries most seriously alarmed by postvaccinal encephalitis have been England with a rate of one case in 48,000, Holland with one in 4,000, and Austria with one in 81,681 vaccinations. Occasional cases have been reported from Germany, Switzerland, and Sweden. In the United States approximately sixty cases have been observed. Most of these were of school age, and the symptoms appeared after the usual interval of from eight to twelve days. According to Armstrong,[26] three cases have been confirmed by pathological studies. Additional cases have been reported by Wilson and Ford,[27] Hassin and Geiger,[28] Fulgham and Beykirch,[29] and others. Although the impression prevails that postvaccinal encephalitis is a common occurrence, as a matter of fact this is not the case. Concerning the etiology, various views have been advanced. Gins[30] and Van Bastiansen[31] stress the recent increase in the incidence of cerebral complications in various diseases. It is remarkable that postvaccinal encephalitis has occurred to a serious extent since 1922; about that time there was an increase in the number of cases of epidemic encephalitis in several countries, and shortly afterward a great increase of the number of cases of poliomyelitis. Since a decrease in the number of cases of encephalitis has been noted, Van Bastiansen reckons with the possibility that within a measurable time the number of cases of postvaccinal encephalitis will fall. The possible association of encephalitis, of whatever cause, with postvaccinal complications deserves further clinical and experimental investigation. It is doubtless a sound policy to suspend vaccination for the time being should encephalitis appear in epidemic proportions in certain cities or districts. Furthermore, the success obtained in certain cases of postvaccinal encephalitis by the treatment of this condition by intravenous injection of serum derived from persons who have recently been vaccinated indicate a procedure by which this serious and deplorable complication may be cured. By vaccinating children between the ages of two and six months, postvaccinal encephalitis can be avoided. In Holland during the extensive vaccination campaign of 1929, which followed the introduction of smallpox into Rotterdam, no case of encephalitis occurred among 16,000 primary vaccinations of infants under one; yet taking the primary vaccinations as a whole, encephalitis occurred once out of every 2,300 vaccinations, and once among 815 vaccinations in the case of children primarily vaccinated at ages six and eleven. Postvaccinal encephalitis occurred on an average only once in 50,000 revaccinations.

IN CONCLUSION

This sketchy review of the present status of the principles of prophylaxis emphasizes anew the key position which the responsible pediatrist occupies in the realm of modern preventive medicine. He alone can popularize and administer wisely the procedures which have been discussed.

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DISCUSSION

E. B. Shaw, M. D. (284 Post Street, San Francisco). In the prevention of contact infection the importance of disinfection of the hands of attendants deserves special emphasis. It can almost indisputably be demonstrated in any communicable disease hospital that, despite an almost ritualistic technique or gowns, masks, screens, etc., the cross infection rate is mostly dependent upon the assiduity with which attendants scrub.

Doctor Meyer's comprehensive résumé of specific immunization should be carefully digested by every thoughtful practitioner; one cannot strongly take issue with most of his conclusions. The necessity of immunization against typhoid and scaret fever varies somewhat with regard to local differences in incidence and severity. Typhoid vaccination is hardly to be recommended in metropolitan communities except for the child who travels so as to come in contact with dubious water supplies. Intensive efforts at universal immunization against scarlet fever are hardly justified by its mildness and relatively infrequent epidemic occurrence on the Pacific Coast and, furthermore, our knowledge concerning the production and duration of artificial immunity makes out a much less convincing case for scarlet than for typhoid fever. Advances of our knowledge with regard to scarlet fever may be awaited with interest.

Pertussis is a disease of wide occurrence, attended by a mortality rate which is often not appreciated. Prophylactic vaccination as at present employed is an unsatisfactory preventive for a very serious infection and is only our best approach to the problem. Improvements in the vaccine and its method of application are to be hoped for. The problem of whooping-cough protection deserves earnest study by critically minded physicians.

Doctor Meyer's statement that the responsibility for the prophylaxis of diphtheria and smallpox rests squarely upon the practitioner rather than upon compulsion from public health agencies deserves most emphasis. Whatever the duties of public health authorities in such a matter, there are great advantages in the practitioner's undertaking the popularization and administration of these procedures of proved value. Both immunizations should be carried out during the second or, at latest, third half-year of life, at a time when the patient does not encounter public school medicine or any other health agency and should be under the individual care of a physician in private or clinic practice. Only by immunization in this period can those diphtherias of early life which are attended by greatest mortality be prevented and at this age smallpox vaccination is done with almost complete safety. If the physician constantly insists upon the necessity for these protective measures in his practice and thus personally carries them out at an early age they are done with maximum certainty and records of their successful completion, together with the necessary Schick test which follows, are kept where they belong, in the child's medical record. It is assuredly to the advantage of both patient and physician that such preventive measures be recognized as a part of the proper medical care of infancy rather than that they be left to a later and less favorable season and the more general beneficence of public health supervision.

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Henry Dietrich, M. D. (1136 West Sixth Street, Los Angeles).—A comprehensive résumé of published observations and opinions on the value of specific immunization in the four diseases mentioned by Doctor Meyer is of inestimable importance to all engaged in the practice of medicine. Its value is greatly increased by the fact that Doctor Meyer has attempted to evaluate the work which has been done and has at the same time given us his ideas and deductions. He speaks to us as a student of pure science and also as one who has had a vast practical experience. We are receiving authoritative information which will help to crystallize our own viewpoint and therefore enable us better to fulfill our mission as safe advisers to the public in the field of preventive medicine.

The public is now, principally due to the results of immunization to diphtheria, quite eager to accept and employ preventive measures of such type. We must not, however, universally recommend immunization for other diseases until we are reasonably certain that they will be successful. Repeated failures would nullify the hard-earned confidence which the public now bestow on measures which have proved successful. This is particularly important in the State of California, where there is still so much propaganda against scientific medicine.

Based on Doctor Meyer's presentation of the subject and personal experience, I feel it is unwise at the present time to urge immunization to scarlet fever. Its value is still in doubt and any method which would require reimmunization every six to twelve months is not feasible or practical.

Typhoid immunization, necessary only when children are about to travel to infected regions, is easily carried out. In our limited experience, the reactions to typhoid vaccine in children is far less than in adults.

Pertussis is still one of our major problems. Its mortality rate, sequelae and devastating effect upon the young is unfortunately still not appreciated by the laity and by many physicians. The problem of its early recognition and great variation in severity and course make it very difficult to form conclusions regarding preventive and therapeutic measures. Doctor Meyer's plea for a properly trained "team" to approach the subject with an open mind and diligently investigate it should lead to a solution of this hard nut to crack.

Procedures of proved value, diphtheria and smallpox, should be carried out early and should be urged upon all parents.

In regard to other measures, I wish to state again that I believe our position as medical advisers will be jeopardized if we advocate measures which are still in the state of investigation. Doctor Meyer's presentation should make it easy for us to see the red stop signal, indicative, we hope, of only temporary limitations in the work under discussion.

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Clifford Sweet, M. D. (242 Moss Avenue, Oakland). It is stimulating to read a discussion of one's everyday problems as a pediatrician from one whose work is more nearly within the field of pure science. I am certain Doctor Meyer would have succeeded eminently as a clinician, had not the laboratory claimed his greater interest.

We have long urged the washing of hands as preparation for taking food, pointing out to parents that "hand to mouth" is a road over which infection frequently travels. This precaution may well be emphasized, even though when so doing conventional table manners receive less than usual verbal exposition.

Typhoid fever is so rarely encountered in well-regulated urban communities that routine immunization against it is not advisable. However, if travel or residence raises the question of possible infection, prophylaxis should be carried out without considering the age of the patient.

Whooping-cough always presents many difficulties when one attempts to determine the results of any form of treatment. The virulence varies through a wide range between epidemics as well as within a given outbreak. Also there is a great difference in the violence of the symptoms in individuals, depending in all probability upon factors of immunity or reactivity and, very possibly, upon the dose of organisms received at single or multiple exposures.

With all these variables clearly in mind we have reason to believe that pertussis vaccine has much value in treatment and prophylaxis. If the injection causes a febrile reaction it seems to have an especially beneficial effect. Therefore when such a reaction occurs, one should encourage the parents to continue the treatment. In severe cases several injections, beyond the three usually given, seem to be of assistance to the patient.

Our experience with the production of active or passive immunity in scarlet fever has been limited to the written or verbal reports of others. We have not been sufficiently certain of results to advise our patients concerning it, except to present as clearly as possible our knowledge of these procedures when asked for this information.

Except when we have been unable to overcome parental objection to smallpox, we have vaccinated all the children in our practice. Whenever possible the baby has been vaccinated between the second and sixth month of life as Doctor Meyer recommends. However, we have not hesitated to advise vaccination for children of all ages and, in well upward of five thousand vaccinations, have seen only one mild attack of encephalitis.

The scar resulting from vaccination for girls bulks large in the parents' minds. The scar need not be large and can be placed upon the inner surface of the arm, where it is not ordinarily visible.

Pediatrics as a specialty has always emphasized the preventive side of medicine.

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Doctor Meyer (Closing).—The discussion has clearly shown the prevailing sound, conservative attitude toward some of the antigen immunizations which have been recommended. The author of the paper not only shares this feeling, but in fact deplores the noncritical and planless empiricism which frequently tends to direct public opinion to a new method of vaccination. Only too often mass injections are practiced long before the merits of the procedure have been carefully analyzed. In this connection it should be recalled that diphtheria vaccination has been employed long before accurate data relating to its value have been available. Through the efforts of the League of Nations it is now known that the morbidity from diphtheria is definitely reduced to the vaccinated. The lethality from the disease is also reduced and in some countries has actually reached the zero point in the vaccinated. However, the period of observation does not exceed two years and the available reports repeat over and over the well known fact that children who have been vaccinated according to an optimum method may contract diphtheria. Obviously, the final word concerning antigen vaccination in diphtheria has not been spoken. The efforts of a "team" of workers at the Johns Hopkins Hospital suggests a filterable virus as a possible etiologic agent in whooping-cough. If confirmed by others, pertussis vaccination would unquestionably be relegated to the nonspecific therapeutic agents.

THE ABORTION PROBLEM*

A REVIEW OF THE ABORTION CASES AT THE HIGHLAND HOSPITAL

By CLARENCE A. DEPUY, M. D.,
Oakland

TAUSSIG, in a paper prepared for the White House Conference on Prenatal and Maternal Care, called attention to the significance of the abortion problem and stated that out of every 1,000,000 human beings conceived, 300,000 to 400,000 perish in the first six months of intrauterine life. In Poland the ratio was one abortion to three confinements; in France, about one abortion to one confinement; small towns of Russia, about one to four; Moscow, about seventy to one hundred; Leningrad, one to 0.7. The textbooks on obstetrics give a very low rate of abortions to confinements, about one to four.

HIGHLAND HOSPITAL OF OAKLAND STATISTICS

In a review of the abortion cases that have been treated at Highland Hospital of Oakland since 1927, I wish to report some interesting facts on the incidence of abortion in relation to term pregnancies, the low percentage of cases which had positive Wassermanns, the high temperatures, and blood counts, and the results obtained. The term "abortion" as here used, means the interruption of pregnancy before the twenty-eighth week.

Nine hundred and seventy-six cases have been studied and the reports are as follows: The average age of the patients was 27.3 years; 848 were married, eighty-four were separated and forty-four were single. There were 2694 previous pregnancies and seventy-seven not stated, 867 previous abortions and seventy-one not stated. Adding the 976 cases to the previous 2694 pregnancies and 867 previous abortions, the sums are 3670 pregnancies and 1843 abortions; an incidence of 50.2 per cent abortions.

The average duration of pregnancy was 2.5 months. The average duration of symptoms on entry to the hospital was 8.7 days.

The diagnosis on admission was 779 incomplete abortions and 164 threatened.

The treatment was rest in bed, with the head of the bed elevated, excepting cases which were bleeding profusely; and observation. High temperature and high blood counts promptly subsided and were considered contraindications to surgery. When the hemorrhage was profuse, a number of patients were taken to the treatment room and under aseptic precautions, the products of conception were removed from the cervix with forceps. After the acute symptoms had subsided and the case was considered incomplete, the patient was sent to surgery, the cervix dilated and the uterus evacuated; 359 cases, or 36.7 per cent, had dilatations and evacuation. In many of these patients the abortion would have been completed spontaneously, but to save hospital days surgical interference was resorted to.

The cause of the abortion in many cases was hard to determine; 566, or 58 per cent, were given as spontaneous; 340, or 34.8 per cent, were induced, and 70, or 7.2 per cent, not stated.

The total hospital days for the 976 patients was 8929, an average of 9.1 days.

The average maximum temperature was 100.5; 202 patients had albumen in the urine. The average maximum blood count was 12,830; the average hemoglobin was 60.7 per cent.

The small number of positive Wassermanns is interesting; two patients had one plus, six patients two plus, two patients three plus, and fourteen patients four plus, making a total of twenty-four patients with positive Wassermanns, approximately 3 per cent. These twenty-four patients had 131 pregnancies and sixty-three abortions, a ratio of 48 per cent. One patient, D-9650, had twenty-three pregnancies and twenty abortions, the last one was induced; the cause of the others was not stated. If this case could be eliminated, it would greatly reduce the ratio of abortions to term pregnancies. In twelve of the twenty-four patients the abortions were spontaneous; ten abortions were induced by the patients or others, and two were not stated. Three abortions were averted, twenty were complete and one not stated on discharge. A total of 801 patients had negative Wassermanns, and in 151 patients, the reports were not recorded.

The results were as follows: 112 patients were discharged with the abortion averted; in 778 the abortion was complete; and thirty-eight patients, on account of various causes, left the hospital before treatment was complete.

There were twelve deaths, or 1.2 per cent, in six of which the cause of the abortion was given as spontaneous; five were induced and one not stated. The causes of death were as follows: Three had peritonitis, two were due to hemorrhage, three had septicemia, two died of bronchopneumonia, and two not stated.

SUMMARY

1. A total of 976 patients had 3670 pregnancies and 1843 of these pregnancies were interrupted by abortion; an incidence of 50.2 per cent.

2. A total of 359 patients, or 36.7 per cent had dilatation and evacuation.

3. High temperature and high blood counts do not mean infection and are contraindications to surgery. The average maximum temperature was 100.5; the average blood count was 12,830.

4. Lues, as a cause of abortion, is rather uncommon; only twenty-four patients, approximately 3 per cent, had positive Wassermanns; and of these, many were induced.

5. The mortality was small considering that many of these patients were sent to the hospital with serious symptoms. There were only twelve deaths, a mortality of 1.2 per cent.

230 Grand Avenue.

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* Chairman's Address—Obstetrics and Gynecology Section of the California Medical Association at the sixty-first annual session, Pasadena, May 2-5, 1932.

TREATMENT OF EAR MALIGNANCIES*

By H. J. Ullmann, M. D.,
Santa Barbara

Discussion *by Lyell C. Kinney, M. D., San Diego; Laurence R. Taussig, M. D., San Francisco; R. R. Newell, M. D., San Francisco.*

THE statement is not infrequently made that it is better to treat malignancies involving the ear by electrocoagulation or the cautery because cartilage recovers poorly, if at all, from the massive doses of radiation required to produce a permanent disappearance of the malignancy. The statement that cartilage does not recover well from large doses of irradiation I believe to be an error, for I have been treating ear malignancies by large doses of unfiltered x-ray and in a few instances with full filtered radium for the last six or seven years. For the last four years at least I have been using massive doses of unfiltered x-ray almost without exception, and in no instance has the cartilage failed to recover, although its recovery is somewhat slower than that of skin. In the few instances where full filtered radium was used, and by full filtered I mean the equivalent of at least 0.5 millimeter of silver plus 1.0 millimeter of brass, moderately large doses were given, in some instances two to five times the minimum erythema dose. My x-ray dosage consists of unfiltered rays at 90 kilovolts peak. About 1700 r are given on the first day, after removing any thick crust or keratotic mass that may be present; two days later 1200 r; and two days after that 1200 r for the third dose, making three doses with one day between each irradiation. This is a total of 4100 r given within a period of five days, or, if 20 per cent per day radiation effect loss is assumed, 2767 r. All measurements of intensity are made on the skin and include back-scattering; that is, the total dose received by the skin. One of these patients with a carcinoma of the helix had a complete perforation when I first saw him, with a fungating growth on both sides. The same dose of x-ray was given to each side of the helix; but in spite of this double radiation, the cartilage healed and epithelium covered it smoothly, although there was a hole in the helix through which a pencil may be passed; but it must be remembered that this hole was present when the treatment started. With smaller original lesions, the scar is frequently as inconspicuous as it is after the same treatment of a basal cell epithelioma of the face, and in a few instances cannot be seen at all. With this evidence I do not feel that we are justified in performing a more or less mutilating operation on an ear because of malignancy when with radiation we can get results equivalent to those obtained on the face. The fear that cartilage will not recover from proper irradiation is entirely unfounded and I am therefore prepared to make the positive statement that irradiation may be accepted as one of the methods of choice in the treatment of superficial malignancies involving the ear as well as those on other parts of the body.

1520 Chapala.

DISCUSSION

Lyell C. Kinney, M. D. (510 Medico-Dental Building, San Diego).—The treatment of malignancy of the ear is always a difficult problem. The destruction of a squamous cell carcinoma requires at least seven to ten erythema doses of radiation with a certainty of cartilage injury. It is the accepted belief that cartilage does not recover following damage from radiation and therefore that the treatment of ear malignancies demands partial amputation or electrosurgical removal. Doctor Ullmann's experience shows that skin carcinoma can be destroyed by radiation even though it involves the cartilage and that the cartilage will recover from the required hypermassive doses. We have confirmed Doctor Ullmann's experience both with his technique and that of Dr. J. M. Martin of Dallas. It has been our experience that the healing is more prompt, with less deformity and with equal certainty as compared with electro-surgical removal.

If roentgen ray or radium is used instead of surgery in these cases it must be understood that "destructive radiation" given in a short period of time is required. Small repeated doses of roentgen ray will not destroy the carcinoma and will usually not be followed by recovery of the cartilage. Destructive radiation requires accurate technique, mature surgical judgment and careful shielding of the surrounding area and must be considered a major surgical procedure. Doctor Ullmann's use of destructive radiation is a valuable addition to the care of skin malignancies involving the cartilage of the ear.

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Laurence R. Taussig, M. D. (384 Post Street, San Francisco).—It has always been a pleasure to discuss the question of the treatment of ear malignancies with Doctor Ullmann, though we do not agree on the method that should be employed. It would be interesting to know the number of patients that he has treated, the percentage of five-year cures and the number which subsequently developed a radiodermatitis.

To my mind, the fact that a particular form of treatment cures a patient does not necessarily indicate that it is the treatment of choice for all cases of that type. Epithelioma of the external ear is practically always of the squamous cell variety. It is my opinion, as well as that of most dermatologists, that squamous cell epitheliomata should not be treated by radiation alone, though radiation in conjunction with other methods may be indicated in certain instances.

Neoplasms of the ear are slow growing and late in metastasizing as a rule. They usually can be cured by some form of cautery. The amount of deformity ensuing depends entirely on the extent of the involvement. In the treatment of early, small lesions practically no scar remains following the proper use of the curette and electrodesiccation.

I believe that the essayist has been very fortunate in not encountering severe reactions involving cartilage. This may be explained by his expert knowledge of the therapeutic use of the roentgen ray. I doubt if the average roentgenologist would be as fortunate. I agree that if radiation is to be employed in these cases, a massive dose given within a short period of time is preferable to fractional dosage.

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R. R. Newell, M. D. (Stanford University Hospital, San Francisco).—I do not believe one prescription can be given for the best treatment of all cases of ear malignancy. The best choice of therapeutic agent must be arrived at (preferably in consultation between radiologist and surgeon) for each case individually.

There are many cases of epidermoid carcinoma of the pinna which I believe can be cured by radiation with less deformity resulting than by surgery or electrodesiccation. These include some cases where cancer has actually invaded the cartilage. I feel much more confidence in the ability of radiation to cure these lesions and in the ability of cartilage to recover from the effects of radiation than I did a few years ago. The difference arises, I think, from the abandonment of repeated radiation and the undertaking of treatment by single hypermassive dose.

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* From the department of radiology and cancer research of the Santa Barbara Cottage Hospital, Santa Barbara.

* Read before the Radiology Section of the California Medical Association at the sixty-first annual session, Pasadena, May 2-5, 1932.

My technique is for roentgen ray: 2500 to 3000 r at 130 Kv. unfiltered given in one sitting. With such small areas measurement in the beam differs but little from measurement with backscatter on the skin. For radium an intensity equivalent to that from 500 or 600 milligram hours at one centimeter distance filtered with two millimeters of platinum. I am not sure that these differ in any important degree from Doctor Ullmann's technique.

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Doctor Ullmann (Closing).—I believe that the difficulty that most dermatologists have had in treating superficial malignancies with roentgen radiation is that they have been using small fractional dosage such as is recommended in dermatological textbooks. It is perfectly true that thorough cauterization will destroy these malignancies, frequently with very slight scarring, and I can quite appreciate the feeling among dermatologists that such treatment is preferable to radiation. I, myself, use fulguration or the cautery in certain selected cases but prefer heavy cauterizing roentgenization for the majority. The reason for this is almost entirely that of deformity, especially for lesions of the ear which are those under discussion. It has been my routine to do a biopsy on all malignancies wherever possible after the full treatment has been given, and with practically no exception the ear lesions as Doctor Taussig has pointed out have been the cornifying epidermoid carcinomas. I agree with Doctor Taussig that in the treatment of early small lesions practically no scar remains following the proper use of electrodesiccation or the cautery and I frequently use such treatment, but I am using cauterizing roentgenization in the large lesions where a considerable portion of the ear would necessarily be removed if the purely surgical treatment was adopted, and it is for this reason and this reason alone that I choose roentgenization in these cases.

I frequently, in fact usually, encounter severe reaction following these radiations, but they all seem to heal. I have a considerable number now approaching the five-year period and many others running up to ten years in which the dose was considerably smaller than I am giving now, but with that technique I had occasional recurrences. I have a few patients who have run over five years with the present technique which I adopted in 1926, and so far I have seen no late objectionable sequelae. I hope to be able to report a reasonably large series of cases within a short time and shall do so and none of these cases will be reported where I have not had a biopsy and a five-year observation period. If at the time of this report I find that the results are not as good as I now believe them, I shall so state and change my method, as I hold no brief for any particular method of treating any type of malignancy that does not show at least as good, if not better, results than any other.

To recapitulate, I agree that small lesions that can be removed by desiccation or the cautery with little or no deformity should be treated in that manner because of the rapidity with which the treatment can be given and the smaller cost to the patient. For larger lesions of the ear where considerable deformity would result from surgical interference. I prefer to use cauterizing doses of the roentgen ray. If the ear has had previous radiation treatment, I prefer to use heavily filtered radium with the filtration up to two millimeters of lead. This treatment is tried first before removing a large portion of the ear and not infrequently good results may be obtained.

HOSPITALIZATION OF VETERANS*

By Thomas W. Bath, M. D.
Reno, Nevada

As chairman of your committee of the Military Section of the Nevada State Medical Society, I wish to submit the following report with reference to more economic and direct hospitalization for ex-veterans, both soldiers and nurses.

One of the major problems engrossing the attention of the entire nation at present is that of veterans' relief measures. During the last session of Congress, when adjusting the financial budget for 1933 it was estimated that money to the extent of nearly one billion dollars would be necessary to take care of the various items included in relief legislation for the ex-soldiers.

Not all of this enormous sum would be expended for medical purposes, but a sufficient amount would be expended for hospitalization, travel expenses, and other medical care that has caused question to arise with the American Medical Association, the American Hospital Association, numerous posts of the American Legion, and Veterans of Foreign Wars to inquire whether or not the expenditure of money for hospitalization in the line pursued by the Veterans' Bureau is the most advantageous to the veteran and his dependents.

TWO PLANS OF PROCEDURE

We are aware of two reports made known to the medical profession with reference to a different method of procedure in handling the sick or disabled veteran. One is the admirable report formulated and published by Dr. H. H. Shoulders of Nashville, Tennessee, who has studied the question in every detail. In his studies of the expenditures of funds necessary for veteran relief, Doctor Shoulders has consulted actuaries of the leading insurance companies and finds that the sick veteran could be taken care of by leading insurance companies from which he would receive a certain sum while ill, which would be equally divided between the hospital and the family of the sick soldier. As it is at present, neither the sick veteran nor his family receive any compensation whatever. The other report has been published in full in the September issue of California and Western Medicine, pages 206 and 214. It is from the Abner Rude Legion Post 481, South St. Paul, Minnesota. My report to you, gentlemen, is largely made up from glaring items that I have been able to note in each of these two reports, together with my own observations as county surgeon for the past three years.

TOTAL ENROLLMENT IN GREAT WAR

The total number of individuals who saw service in the army during the World War was 4,122,930. We had, in 1917, 146,000 qualified physicians and surgeons in the United States and of this number, 34,387 physicians and surgeons were in the service. In addition to this there were 4,668 dentists and 23,159 nurses.

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* Report of the Military Committee of the Nevada State Medical Society. Read and approved and ordered published at the regular meeting of the Nevada State Medical Society at Bower's Mansion, Reno, Nevada, September 23 and 24, 1932. (See minutes of Nevada State Medical Association, this issue, page 417.)

GOVERNMENT'S POSTWAR PLANS

Immediately upon the close of the war the government wished to show its appreciation to the soldiers and made it possible for the soldier to receive insurance at a very low cost; also an extended period of vocational training to fit him for his life work; and immediately set about to provide measures for proper hospitalization of the sick. The present Veterans' Bureau is a structure that has been built up from the old pension department which formerly consisted of boards of pension examiners in every state, before which board a soldier had the privilege to appear and be examined for such disabilities as he alleged to possess. Now the pension boards are abolished and an extensive bureau, with its ramifications in every state in the Union, operates in behalf of all the veterans.

VETERAN'S BUREAU PLANS

The plan of the Veterans' Bureau has been to construct hospitals to take care of all sick or disabled veterans and, since 1926, to include veterans with non-connected service disabilities. In June, 1931, there were fifty-four veterans' hospitals with 24,930 beds. The program outlined by the Veterans' Bureau is to construct a sufficient number of hospitals for 130,000 beds. The total cost is $3,500 per bed, which will represent a gross expenditure for hospital buildings alone of $445,000,000. In addition to this it will require $229,000,000 per year for the maintenance of these hospitals. And in addition to this vast sum the cost of equipment and transportation has to be estimated as is now given to the disabled veteran (cost of transportation including from and to the veteran's home). This average cost now is $30.58 per veteran. If the present contemplated veterans' hospital plan should be carried out, it is estimated that there would be 130,000 annual admissions to the veterans' hospitals. The train fare and other transportation for this number of admissions would run about $4,500,000 per year alone for this item. However, it is estimated that the transportation costs for one of the largest veterans' hospitals is estimated at $1,500 per day or $5,475,000 a year. So in addition to the remaining hospitals as contemplated it is apparent that the cost of transportation for veterans to and from various hospitals would amount to fabulous sums per year. All of which if by the employment of the 70,000 civilian hospital beds now available for the public these enormous expenditures could be eliminated. As General Hines said in his Portland address before the Legion convention, that veterans' appropriations now equal one dollar per acre on every farm in the United States, or on an average of $150 per farm.

The cost of the present plan of hospitalization has been estimated that every man, woman and child at present will pay $10 per year, and if the proposed plan as outlined for veterans' relief is carried out, it will go to the enormous expense of $30 per year for every man, woman or child in the United States. Assuming a family of four—husband, wife and two children—taxation from them would amount to $120. But we must consider that this tax would not be spread out upon a pro rata or general average; for it is now estimated that three per cent of the population of the United States pays the bulk of the government tax, while 12 per cent of the population practically makes up the entire remainder. The one burning problem of the day is the cry for relief from the excessive burden of taxation, and to impose this enormous tax on 15 per cent, a small part of our population, would be manifestly unjust. General Hines in his recent speech just referred to in Portland, said: "I am essentially concerned with devising ways and means through which more direct and economical service may be given. Such service will, I believe, result through a simplification of procedure."

SUGGESTED IMPROVEMENTS

Now this is what has been proposed: That the sick or disabled veteran be given better care, without the separation of himself from his family, at infinitely less cost to the government than is now the case. At present there are 70,000 beds immediately available in the various hospitals in the United States and in proportion, as our population increases, civilian hospitalization will increase. But with reference to the veteran, as time goes on his number will decrease. For instance, sixty-seven years ago at the close of the Civil War there were over two million Union soldiers discharged from the service, but today of that great number there are scarcely 30,000 left. Of the 312,523 soldiers and sailors who were in the Spanish-American War, not including the Philippine Insurrection, possibly 40 per cent of that number are now dead. It is apparent then that if we have today 70,000 available hospital beds in the United States, that with such a plan as has been recommended by the Abner Rude Post 481, St. Paul, Minnesota, and the plan as recommended by Dr. H. H. Shoulders of Nashville, Tennessee, that if we apply aid directly to the soldier and permit him to be hospitalized in his own home community and looked after by his own home physician or surgeon, we can cut the bands of red tape and render relief immediate and effective. Since the ex-veteran with nonservice-connected disability has been made eligible to hospitalization, which number constitutes 70 per cent of the whole number hospitalized, it is frequently a very difficult matter at times to secure immediate hospitalization for the veteran. And when we are confronted with such conditions as occur in every community, namely, acute appendicitis, automobile injuries demanding immediate attention, hemorrhages of various kinds, pneumonias or influenza, in these and many other types of cases where long-distance transportation is absolutely out of the question and hospitalization must be furnished at the nearest community hospital, it is then apparent that the present mode of veterans' hospitalization does not by any means fill the bill. If the soldier is indigent, in which it is found a very large percentage exists, the soldier must be taken care of either through the generosity of the local post or the Red Cross organization or some willing friends, otherwise he enters the hospital as an indigent receiving aid as is intended for paupers.

OBJECTIONS TO PRESENT PLAN OF HOSPITALIZATION

It is to offset the present plan of veterans' hospitalization that we enter our protest against this system of ineffective hospitalization, especially with reference to acute cases. And we urge upon every medical body and every veterans' post that such action be taken to remedy the defects of the system now in vogue.

Also we have another objection of the most serious character to the present plan of veterans' hospitalization. And to this suggestion I am sure that every physician and nurse in the United States who is not connected with the Veterans' Bureau will heartily agree. And that objection is this:

That under the present plan the government is entering into business in direct competition to the today's number of 156,440 physicians and surgeons, not to speak of the tens of thousands of nurses who are citizens and taxpayers in the United States of America. One should remember that the government's bureau is attracting to itself a medical and surgical clientele from over four million people, thereby taking away from the legitimate earnings of thousands of the physicians and surgeons, nurses and hospitals who are a part and parcel of the body and bond of the United States. There can be then no other interpretation to the work of the Veterans' Bureau than to class it as in the business of state medicine. State medicine is an affair which every group of ethical men and women in the practice of medicine or nursing is vigorously fighting in this country today. Every sick soldier or nurse has the supreme right to call to his or her bedside such physician or surgeon as is his or her choice.

PROPOSED RESOLUTION

In conclusion, your committee earnestly hopes that the following resolution will be adopted:

Whereas, There exists today in the United States a sufficiently large number of civilian hospitals capable of administering to all the surgical and medical needs of ex-veterans, either soldiers or nurses; and

Whereas, The plan as contemplated by the Veterans' Bureau of continuing the building of hospitals will entail an enormous expense both for construction and maintenance, which expense we believe is unjustifiable and unnecessary; and

Whereas, The present method of hospitalization for soldiers and nurses cannot reach the thousands of acute cases that naturally must arise each year and which under the circumstances cannot be sent into the veterans' hospital, thereby placing the entire cost of hospitalization upon the sick or acutely disabled soldier or nurse; and

Whereas, If such moneys as are now being used were used with the directness of purpose toward aiding in the medical or surgical needs of the sick or disabled veteran or nurse, if the same were applied to alleviate in his or her own community such needs as arise, the community as an integral part of the United States would be benefited and it is scarcely necessary to add that the well-being of the soldier and his family would be better attended to; now therefore be it

Resolved, That the Nevada State Medical Society in convention here assembled does hereby protest against the present manner of aid rendered by the Veterans' Bureau to sick and disabled ex-soldiers and nurses and this for the reason that the same is far from covering the actual necessities in times of acute conditions, and therefore fails in bringing direct medical or surgical service to the sick or disabled when most urgently needed; that we recommend to the Veterans' Bureau at Washington, to the American Hospital Association, to the American Medical Association the institution of the plan as outlined by the Abner Rude Post 481 of the American Legion of South St. Paul, Minnesota, or the plan as recommended by Dr. H. H. Shoulders of Nashville, Tennessee, as being more effective to minister to the veterans' needs and infinitely less costly to maintain.

MEDICAL CARE AND HEALTH SURVEY OF UNEMPLOYED MEN IN SAN FRANCISCO*

By N. A. David, M. D.
and
M. Warner, M. D.
San Francisco

Discussion *by Alexander S. Keenan, M. D., San Francisco; Jacques P. Gray, M. D., San Francisco.*

During the first half of 1932 the city of San Francisco began its work of providing food and shelter for about three thousand of its destitute men. As part of the relief program a system was worked out whereby meal tickets and lodging are given only to those registered at a central bureau. These tickets require weekly renewal. Registration consists of supplying certain social data which is recorded and filed for reference. Transients are not registered, but are given meal tickets for two days and are asked to leave town. A soup kitchen supplies two meals a day and several lofts and buildings have been converted into sleeping quarters.

CLINIC DISPENSARIES

To care for the many medical wants of this group of men, two small clinics were opened early in the year. These clinics have a doctor and a male nurse in attendance and are adequately equipped to dispense the more commonly needed medicines and to care for minor surgical conditions. An average total of sixty to seventy patients are seen daily, the more serious cases being referred directly to the San Francisco Hospital or University clinics. While a considerable proportion of the patients are transients, the larger number are residents of the city. During the first six months of operation more than nine thousand visits have been recorded at these clinics and over two thousand individuals treated.

A brief survey of the kinds of ailments treated shows that a large number comprise upper respiratory infections, particularly bronchitis. This is partly explained by the crowded conditions and poor ventilation of the sleeping quarters. Next in order of frequency are foot conditions, such as blisters, corns, and a surprising number of cases of epidermophytosis. Skin diseases such as impetigo, scabies, various forms of eczema and dermatitis are relatively common. Constipation is a frequent complaint, but no more than would be expected in such a group. Relatively few complain of indigestion, although many seek to blame the food they eat as a contributing factor toward their colds, constipation, eczema, or slow-healing wounds. This is perhaps unjust, for while few green foods or fruits are given, an abundance of vegetables is served in the afternoon stew. No evidence of an approaching avitaminosis has been noticed. However, quite a few of the older men appear "washed out" and anemic, but it is doubtful if this has any relation to the food. Only one case of pellagra was found and that occurred in a transient. Fifteen cases of severe diarrhea reported for relief, and of seven of these patients each having a single stool examination, four proved positive for *Entameba histolytica.*

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* Presented before the San Francisco County Medical Society, August 9, 1932, as part of a survey by Dr. Sol Hyman of the Medical Relief Program for the Unemployed.

Contrary to the general belief that a large number of those sleeping in "flop houses" are infected with vermin, very few cases of pediculi were seen and these were usually on transients who had been dwelling in freight cars.

Outstanding by its absence is the lack of venereal disease. Not more than four luetic chancres and twenty cases of acute gonorrhea have been seen. When indicated, blood is taken for the Wassermann test, and of the thirty samples obtained only ten were positive. Rheumatic conditions, arthritis, cases of severe cardiorenal disease, and traumatic conditions such as fractures, sprains, and wounds are only occasionally seen. On a whole this group of men live quietly and sanely, and excepting the fact that many of them are elderly men, their medical wants would be few.

EXAMINATION OF TWELVE HUNDRED CITIZEN REGISTRANTS

In addition to the care afforded the sick at the clinics, we began early this summer to do routine physical examinations on all new applicants at the Registry Bureau. It was hoped that these examinations would reveal certain necessary data from which to better estimate the needs of the men for the coming winter. Such information concerned the general physical condition of the men, their hygiene, the presence of vermin or contagious diseases, and the number needing immediate care at the Relief Home. This information would also be of value in the compiling of a list of able-bodied men to work at the forest reservation camps during the winter.

Each man was thoroughly examined and all physical defects noted. Blood pressures were taken and the eyesight checked by the Snellen chart method. While this work is still being carried on by one of us (M. W.), the survey here presented comprises data on the first twelve hundred men examined. The findings on this group, all of whom are residents of San Francisco, differ somewhat from those seen at the clinic, where a goodly number were transients and younger men.

Following is the manner in which these men have been classified, together with the number placed in each category and the per cent of all those examined.

TABLE 1.—*Classification of Men Under Observation*

Class		Cases	Per Cent
A	Young: physically able to work (up to 40 years old, rarely up to 45 years)....	427	35.5
B	Old: physically able to work (over 40 years)	540	45.0
C	Handicapped, but physical condition good (all ages)..........	100	8.3
D*	Receiving temporary clinic treatment....	19	1.5
E	Need temporary hospitalization..........	3	.25
F	Relief Home type..........	111	9.24

* Of group examined only.

Several important facts are revealed by this classification. According to standards set by insurance companies and used by large corporations in examination of prospective employees, those in Classes B, C, E, and F, approximately 770, or 65 per cent of this group would not be acceptable for employment. Forty-five per cent of the men are over forty years and placed in Class B, although all but ten per cent of them are physically able to do hard work. This small minority of ten per cent is made up of men in the late fifties and sixties who will in a year or so be automatically relegated to the Relief Home type, Class F. In Class C are placed one hundred men of all ages who are in good health but handicapped by such defects as organic heart lesions, loss of a limb or eyesight and are thus disqualified for competitive work. Class D consists of nineteen men receiving temporary clinic treatment, all of whom will later return to Class A or B. Class E comprises only three men needing immediate hospitalization. In these particular cases all have moderately advanced pulmonary tuberculosis. Class F, the Relief Home type, includes only the most deserving and incapacitated or senile cases. These number 11, or 9 per cent, of the men. With 10 per cent of the 540 men in Class B soon to become Class F types, not to mention a large number of this type yet to be examined, a serious problem arises as to how to provide adequate care for these men, all of whom should be institutionalized.

The data available may be presented in a more encouraging manner if we set aside the insurance company standards. Actually we find those unable to do work comparatively small in number. Probably all but fifteen of the one hundred handicapped men in Class C could engage in useful work, while those in Class B, over forty years of age, all but fifty-four are able to do hard manual labor. The small number of nineteen in Class D are only temporarily incapacitated. Table 2 shows that a total of only 183, or about 15 per cent, of all examined are unable to work.

TABLE 2.—*Showing Proportion Unfit to Work*

Class	Cases	Unfit	Per Cent of Total
B	540	54	4.5
C	100	15	1.24
E	3	3	.25
F	111	111	9.24
	754	183	15.23

CLINICAL FINDINGS

The clinical findings are grouped and discussed as follows:

(a) *Physical Defects.*—One hundred men were found to have herniæ, many of which were inoperable, particularly those found in older men. An additional 200, practically all of Classes B and F, had weak inguinal rings. Varicoceles numbered 100, while varicose veins were observed in another 100 men. A total of 220 men had external hemorrhoids. Actual skeletal defects were rare, two having their right legs amputated at the mid-thigh, one with the right foot missing and two whose left legs had been amputated at the middle third. Only two were noted with fingers missing. Three were seen with marked club-feet. The condition commonly called "flat-feet" was present in varying degree in over 400 men, all of whom would have been disqualified if examined for army service.

There were 400 men who showed severe pyorrhea of the teeth and gums, many with dental caries as well, while another 200 had dental caries alone, making a total of 600 in need of immediate dental care. Other various physical defects noted were: twelve men were blind in the left eye, five blind in the right eye, and in four men one eye had been enucleated. Cataracts were noted in six men.

(b) *Organic Lesions.*—Examination of the heart revealed over 180 men to have mitral regurgitation as evidenced by a loud systolic murmur at the apex, as well as some degree of heart enlargement. Only five cases of actual decompensation were seen, although about 15 men showed signs of approaching heart failure. Another 200 presented indefinite systolic rubs or bruits over the apex. Eight cases of arrhythmias were found and two with reduplication of the first sound. These latter were all in Class F.

A systolic blood pressure above 200 millimeters Hg. was found in twenty men, all of whom were over fifty years old.

Evidences of syphilis were noted in only sixteen men.

(c) *Skin Conditions.*—Unlike those noted among the transient cases seen in the clinics, in this group there were but few cases of scabies and vermin. Only forty cases of scabies and thirty-five of pediculi were found, nearly all of which occurred in helpless old men. Of the more common skin conditions, there were thirty-five acne vulgaris, four exfoliative dermatitis, two circinate syphilids, and one epithelioma.

(d) *Miscellaneous.*—The average loss of weight during the past year has been only about three or four pounds per man. Many of the men examined are new registrants asking for aid for the first time. As these men have not been eating in the soup kitchen, we have no means as yet of observing whether or not those cared for are receiving proper nourishment.

SUMMARY

A cross section of the physical condition of the less fortunate unemployed male citizens of the city of San Francisco has been presented. Clinically, the outstanding facts revealed are the large number with flat-feet, pyorrhea and dental caries, heart lesions, and herniæ. When work is available 85 per cent of the men will be able to return to useful occupations. A serious problem is presented by the large number of old and incapacitated men needing immediate institutional care. Every effort must be exerted to prevent the outbreak of an epidemic among this group of men who eat at a community kitchen and are crowded together in five or six sleeping places.

Department of Pharmacology,
University of California Medical School.

DISCUSSION

Alexander S. Keenan, M. D. (870 Market Street, San Francisco).—This excellent paper presents, I think, a true picture of the physical conditions among the unemployed in San Francisco. As a city physician, I come in contact every day with just such a class of people. Cheap hotels and lodging-houses south of Market Street are crowded with the unemployed. They pay no rent, eat at the soup kitchens and at the charitable organizations. Most of the men are about middle life, quite a number are older. They all look older than their age. This is no doubt due to the hard lives they lead and to the lack of care. A high percentage of such men are bound to complain, and of course they have just cause to complain. Out of work for a long time, no money, scanty and poor food, and miserable lodgings—and for some none at all.

Physical ailments under such conditions are bound to be magnified. When we have nothing to do, we look to our bodies and will always find something. Things that were overlooked while they were working are now complained of, and treatment for them demanded.

After all, is it not a fact that most people after they have passed middle life have some physical ailment or defect. We all as we grow older find a weakening in the human machine. I believe that if the same number of men in other walks of life were examined, you would find, with the exception of the cases of scabies and vermin, pyorrhea and bad teeth, just as many defects. Hypertension and heart murmurs are just as common among the well-to-do. Hernias and hemorrhoids we frequently find among the mechanics, the merchant, and the professional man. Flat feet and the athletic foot are as common among the high school boys, the college athletes, and the club men as they are among the hoboes and the down-and-out laborers.

I am satisfied from what I have seen of the unemployed that the majority of the older men will never return to work again. They will have to be cared for in some way or another by the community. They have held onto jobs, some for many years, that did not require much physical effort or hard labor, and now as they are out they will stay out.

This survey made by Doctor David just brings to our attention that we are all subject to pretty much the same class of ailments and in about the same proportion.

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Jacques P. Gray, M. D. (Acting Director of Public Health, San Francisco).—Doctor David's paper sets forth the existing facilities and mechanism for the care of the unemployed males in San Francisco. He describes in detail the present methods of providing for medical care of these men. From the public health viewpoint there are two conditions which should be emphasized. During the current era of economic stress and strain, widespread attention has been concentrated upon charitable relief. Relief measures have had as their paramount objective the provision of food and shelter. The conflict which should be emphasized involves the fact that medical and charitable relief cannot be divorced. In San Francisco, at least, although other cities have set up some comparable arrangement, a sincere effort is being made to provide medical care for this constantly enlarging group. Doctor David's outline is concerned with the single male group. It might not be inappropriate to mention here that the city and county of San Francisco, through its Department of Public Health, offers the services of six city physicians who attend the indigent sick in their homes, as well as the facilities of the overcrowded San Francisco Hospital in cases demanding hospitalization.

The second condition is that of low morbidity rates. As Doctor David points out, due to the conditions prevalent in the quarters available for housing these men, upper respiratory infections occurred rather frequently, as would be expected. Poor facilities for change and cleansing of clothing and for adequate personal hygiene under conditions in which close contact is unavoidable, accounts for the occurrence of impetigo, scabies, and pediculosis. One of the most interesting statements in Doctor David's paper calls attention to the low incidence of venereal disease, which certainly would not be expected in the group studied. In the Department of Public Health Venereal Disease Center, the occurrence of gonorrhea and syphilis in males has increased during the last few years so that our estimates of the true incidence would be at variance with Doctor David's. The possibilities of true outbreaks of communicable diseases in these men, however, are always existent, and this potential source of infection, for the community, is to be watched. It is remarkable that in this group of men, gathered as they are, from many sections, from many associations and contacts, from all social and economic strata, placed under crowded living conditions which are unfamiliar to most of them, there have been no outbreaks of cerebrospinal fever, acute anterior poliomyelitis, variola, scarlet fever, or other of the major acute communicable diseases. Mild upper respiratory infections, dermatomycoses, impetigo, and an occasional instance of gonorrhea, or syphilis, or amebic dysentery—and these in a low incidence. We are very fortunate. And these conditions confirm the dictum often referred to that "the general health conditions during the depression are better, even, than during the days of prosperity."

DERMATOLOGIC DIAGNOSIS*

By Moses Scholtz, M. D.
Los Angeles

I

THE BASIC PRINCIPLES AND TECHNIQUE

If one should attempt to evaluate the present status of dermatologic practice from the point of view of the general practitioner, the following would seem to be the correct presentation. The general profession seems to realize that skin diseases constitute an enormous clinical domain extending over and intertwined with every branch of clinical medicine. Hence the practical value of studying skin diseases would seem to be self-evident. Yet only very few practitioners avail themselves of the opportunity to take a postgraduate dermatologic training.

The main reason for this is the peculiar notion prevailing in the mind of the rank and file of the profession that skin diseases are only of minor importance as they but exceptionally lead to dramatic medical and surgical complications and death. The common impression among practitioners also is that clinical dermatology is a combination of, shall we say, occult and peculiar science and empirical art requiring a long apprenticeship acquired in practice rather than a science based on theoretical principles and laws.

Most medical students receive less clinical training in dermatology than in any other major subject. As a result of this attitude is the notorious weakness, nay helplessness, of general practitioners in the clinical handling of skin diseases.

DIAGNOSTIC FAILURES

Between diagnostic and therapeutic errors the first ones are more numerous and important and are harder to avoid, since with a correct diagnosis the therapeutic suggestions can be gleaned from the testbooks with some degree of success; on the other hand, for the reasons to be outlined below, no skin atlas can help in making a diagnosis of an individual dermatologic case.

It is a common observation of every dermatologist doing reference and consultation work that the general practitioner just as often makes diagnostic errors in simple and common dermatoses, such as scabies, epidermomycoses, erythema multiforme, etc., as in rare and unusual dermatoses.

This fact is a conclusive proof that his diagnostic weakness is due not so much to the lack of specialized clinical experience as to the lack of the correct method of arriving at diagnosis; in other words, to faulty old methods of teaching dermatologic diagnosis. It is the purpose of this paper to present in a concise and practical manner the basic principles and technique of the differential diagnosis of dermatoses most commonly observed in general practice.

CLINICAL VALUE OF MORPHOLOGY IN DERMATOLOGIC DIAGNOSIS

Historically, morphology is the most important element, since it is the basis upon which the structure of dermatologic research was started and continued throughout the whole first stage of its development. In the beginning skin diseases, very much like flowers, were classified and identified by the general design and pattern of the morphologic picture and its various details.

With the growth of dermatologic experience the defectiveness of such classification became apparent. It has been found that the morphologic design and pictorial image of any dermatosis is seldom the same in different patients and that it seldom remains stationary throughout the whole course of the same case, because of the development of secondary lesions, complications, and numerous incidental details varying in individual cases.

This led dermatologic research into the second *histopathologic period*. It was attempted to identify and classify individual dermatoses on the basis of the microscopic histopathologic changes in the skin. Several decades of histopathologic study proved to be only partially successful. This new method has added the possibility of differentiating dermatoses on their pathologic changes and locating them in different pathologic groups, such as inflammatory groups, granulomata, tumors, etc. But it proved practically impossible to differentiate the microscopic picture of many inflammatory dermatoses. It is the consensus of opinion that the histologic picture can give a definite diagnosis only in a small minority of cases and that histopathologic study can be regarded only as a minor factor in the dermatologic diagnosis.

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* From the department of dermatology, College of Medical Evangelists, Los Angeles.

The morphologic and histopathologic periods of dermatologic research have been followed by the *biologic period* which has proved the most productive of them all for the understanding of pathogenesis. All the resources of the modern laboratory have been utilized to enrich the technique of dermatologic diagnosis. These new methods have broadened the scope of the dermatologic research, have integrated it into the body of general medicine and have rendered dermatology equal in scope and content to any other branch of clinical medicine. Thus the new concept of etiologic diagnosis has been evolved and put on a rational basis.

MORPHOLOGIC VERSUS ETIOLOGIC DIAGNOSIS

A new relationship between morphology and etiology of dermatoses has been established. A new principle was enunciated by the French dermatologist Benier that *different etiologic factors may produce skin lesions of identical morphology, and, vice versa, one etiologic factor may produce skin lesions of various morphology.* It would seem in view of this that diagnosis of skin lesions on morphologic data alone should prove a useless, artificial and technically difficult procedure.

Strange to say, clinical experience has refuted this theoretical expectation. The internist, in spite of his better training in the systemic study of the patient affected with a skin disease, still has to call on the dermatologist for a dermatologic orientation. The reason for this is that, before any systemic study or treatment of dermatosis is undertaken, a correct interpretation of the skin lesions and their at least approximate location in some nosologic group should be made. For instance, the clinician must be able at least to determine whether the skin lesions are of local or systemic origin. This ability of the correct interpretation of skin lesions rests at present in the dermatologist because of his special training in this particular direction.

In other words, morphologic diagnosis has lost its original claim of the exact identification of dermatoses on their general pictorial design and pattern, but it still remains the only diagnostic method which can place dermatoses in the proper nosologic group and give definite clues and guidance for the study and treatment of the case.

OBJECT OF THIS PAPER

Because of this, no clinician is capable of diagnosing and intelligently handling a skin case without possessing the minimum knowledge of the basic principles and technique of the morphologic differential dermatologic diagnosis. To supply this minimum in a concise and practical manner is the purpose of this contribution.

DERMATOLOGIC DIAGNOSIS IS OBJECTIVE

Before entering the technique of differentiation of individual dermatoses it is proper to consider a few general basic principles of dermatologic diagnostic technique.

The first principle is that dermatologic diagnosis is essentially objective. It is made much more on the study of the present skin lesions, of the composite morphology, and of the clinical involution of the lesions than on the subjective statements gleaned from the patients and the history.

Dermatologic diagnosis has one peculiar advantage over the other branches of clinical medicine. It does not require a complicated and refined technique and apparatus to elicit symptoms and objective findings on which to base a positive and differential diagnosis. Like an x-ray picture, it needs only to be read and correctly interpreted.

This eliminates to a great extent and renders unnecessary the subjective element, as is revealed in the complaints and statements of the patient. The routine questions addressed to the patient, "How long have you had it?" "Does it itch?" are useless and superfluous in most cases. The appearance of the skin lesions themselves gives a better and more unbiased information than the patient could possibly state it. The presence or absence of scratch marks and excoriations answers the question of itching. Acutely inflamed or sluggish, chronic infiltrated lesions give a fairly correct estimation of the acute, subacute or chronic stage of the disease. The knowledge of the exact number of days, weeks or months is of little clinical importance.

VALUE OF HISTORY

In no other detail of diagnostic technique is revealed the difference of methodology between dermatology and internal medicine as strikingly as in the evaluation and utilization of a history for diagnostic purposes.

In internal medicine a complete and thorough history is the very first step, and any attempt to make a diagnosis without a history is simply unthinkable and impossible.

Strange as it may sound, it is safe to state that a well-trained dermatologist is able to make a morphologic diagnosis in over 50 per cent of cases without asking a single question.

MORPHOLOGIC VERSUS ETIOLOGIC DIAGNOSIS

It is important to draw a distinction between morphologic and etiologic diagnosis. They coincide only in a small number of dermatoses. For instance, morphologic diagnosis of scabies, pyoderma, syphilis, tuberculide, epidermaphytoses or dermatitis factitia implies a definite etiologic conception and a definite therapeutic suggestion.

On the other hand, a morphologic designation of eczema, psoriasis, urticaria, dermatitis herpetiformis or vitiligo does not convey either etiologic or therapeutic clues. In these cases a complete and thorough history of the case is an absolute necessity and cannot be dispensed with. It is futile and superfluous to ponder which of the *two diagnoses, morphologic or etiologic,* is more important. The fact of the matter is that they *are merely the two different stages of one complete diagnosis.* Determination of the morphologic type of skin lesions is the first stage and the etiology is the second.

Therefore, I do not minimize nor deny the value of a history in the final diagnosis, but merely insist that a history should be taken only after the morphologic classification is made. This is particularly advisable for beginners and inexperienced clinicians since the history, as it is commonly taken, offers many false diagnostic clues and traps. In a majority of cases the history is helpful in contributing details of information after the general morphologic identification is made. For instance, in a morphologic diagnosis of an allergic food rash, contact dermatitis or drug rash, the history may indicate this particular food, irritating substance or drug.

It should be clearly understood that while a complete history is not a necessity in dermatologic morphologic diagnosis it is absolutely necessary in all systemic dermatoses, for intelligent therapeusis of the case and a proper understanding of the patient as a clinical and biologic unit.

CLINICAL AND LABORATORY DIAGNOSIS

The clinical value of the laboratory in dermatologic diagnosis merits certain elucidation and discussion.

The general laboratory procedures such as urinalysis, blood chemistry, basal metabolism, are of the same value as in general medicine.

Special mention should be made of the Wassermann test, since its value in dermatologic diagnosis is of restricted value. A negative Wassermann is notoriously unreliable and occurs in frank cases of active syphilis. On the other hand, positive Wassermann, while it usually does mean syphilis, does not mean that the present skin lesions are syphilitic for the simple reason that a syphilitic may contract any other type of skin lesion. Furthermore, the diagnostic value of the Wassermann test is restricted by the fact that the morphologic traits of skin syphilis or so-called "specific stigmata" present one of the most constant and reliable dermatologic morphologic syndromes, detected almost unfailingly by a well-trained eye. The morphologic diagnosis of cutaneous syphilis, if properly made, is so reliable that a therapeutic test of specific medication can be safely instituted even in the presence of a negative Wassermann.

BACTERIOLOGIC AND MYCOLOGIC EXAMINATIONS

Bacteriologic and mycologic studies are assuming an ever-increasing importance in clinical dermatology. Possibly the most spectacular recent advance in the dermatologic research has been made in this particular field, the isolation of the epidermophyton fungus as the causative agent of various types of dermatoses comprising an enormous clinical domain. The second large group, the yeast fungi of the monilia type, is just beginning to be uncovered and isolated in a large variety of dermatoses. The recent increase of coccidioides granuloma may also be mentioned here.

Theoretically, microscopic and cultural study and experimental inoculation should be attempted in each case as a final link in establishing diagnosis. In practice, this is far from being the case for several reasons. The first and most common is the lack of laboratory facilities and of competent bacteriologists and mycologists. The second purely technical reason is that a thorough laboratory procedure such as culturing and animal experimentation requires considerable time, in which contingency the clinician often cannot wait for laboratory diagnosis and must start treatment on the basis of his clinical diagnosis. The third reason is the peculiar topographic location of the skin in human economy and its constant exposure to the air, which renders it a potential habitat to all possible parasites and saprophytes. Thus the flora and fauna of the skin, both in health and disease, is very complex and diversified. Hence many varieties of bacteria and fungi can be found in various dermatoses.

The finding of certain bacteria or fungi in certain dermatoses does not necessarily prove their pathogenicity. They may be present merely as saprophytes. This is particularly true in regard to the yeast cells and staphylococci. In these cases a therapeutic test, the type of clinical behavior, and at times animal inoculation are necessary for a final diagnosis.

The above remarks show that in daily practice bacteriologic study cannot relieve the clinician of his responsibility to make a clinical diagnosis.

TECHNIQUE OF DERMATOLOGIC DIAGNOSIS

The few fundamental points of the technique of dermatologic diagnosis should be impressed on the mind of the clinician and be cultivated and practiced by him until they become a subconscious and automatic habit. The first is the *absolute importance of good daylight.* Differential dermatologic diagnosis is based on very delicate shadings of color. Poor daylight and, still more, artificial light, so changes the color of the lesions that no definite conclusions can be reached. No definite dermatologic diagnostic statements should be made in the evenings.

Bearing on the same point, it is of importance to keep the temperature of the examining room just warm enough to be comfortable to the skin. Too high temperature flushes the skin surface, exaggerating erythematous features; too low temperature chills the body and, by contracting the cutaneous vasomotor network, produces the so-called "marble skin" and distorts the natural color of the lesions.

Also it is of the utmost importance not to allow patients to select their own position but to place them so as to get the maximum light available on all parts to be examined.

Another point, the practical importance of which cannot be too strongly emphasized and yet, which is constantly violated in practice, is *not to be satisfied with the examination of the part of* *the eruption exhibited by the patient but to see all of it* and, if necessary, the whole surface of the body.

The most important principle of dermatologic differential technique is that a dermatosis cannot be identified or recognized by the general pictorial pattern or design of the eruption.

Skin diseases present an endless variety of clinical pictures modified in the course of their clinical evolution by numerous external and internal incidental factors so that different nosologic forms may present a striking general resemblance in pictorial design. However, *while dermatoses have no pathognomonic or static pictorial design by which they can be identified, each dermatosis, recognized as an independent nosologic entity, has a certain number of characteristic morphologic traits, the presence of which in toto or in majority renders its diagnosis certain or at least likely.*

TECHNIQUE OF THE DIFFERENTIAL DIAGNOSIS

The first step in dermatologic diagnosis is the detailed description of the composite morphologic picture and of the individual lesions. Among the important morphologic traits which should enter the description are: the color and shape of the lesions, their distribution and localization, whether they are discrete and well defined, or diffuse and ill defined, whether they are circinate, linear or irregular in shape. This is a matter of great importance. The exact color of the lesions must be given. Dermatologic diagnosis often hinges on very delicate shades of color. Whether the lesion is pink, bright, angry red or dusky red, cyanotic, violaceous, purpuric, yellowish or pale white, matters greatly in differential diagnosis.

Primary lesions must be described first, macules, papules or vesicles, and, secondary, scales, crusts, excoriations, fissures, ulcers, pigmentations, infection or lichenification, after.

The *method of involution of the lesions* is of utmost diagnostic importance and should never be omitted. Whether the lesions have tendency to produce ulcerations and scars or a loss of hair, whether the vesicular lesions remain unbroken and heal up by desiccation, or break open spontaneously or by scratching, may decide diagnosis one way or another.

Equally important is to state the method of distribution and dissemination of the original lesions, whether they show marginal activity and spread through the extension of the edges, through contact of the contiguous parts, or spring up simultaneously on different widespread parts of the body.

Each dermatosis accepted as an independent nosologic entity (such as eczema, *i. e.,* dermatitis, lichen planus, psoriasis, syphilis, scabies) has several characteristic morphologic traits which are present in majority or *in toto* in fully developed cases.

After detailed morphologic description the clinician must determine which particular dermatosis the present morphologic syndrome would fit the best. The *correct technique of morphologic differential diagnosis calls both for a positive and a negative check-up,* which means that the clinician must prove not only why this particular case should be diagnosed as eczema, but also why it could not be taken for psoriasis, seborrhea or any other dermatosis having a general pictorial resemblance with his case.

This procedure may seem tedious and long, but is the only rational way, particularly for a beginner, to arrive at a correct diagnosis and guard against groping in the darkness of false diagnostic clues. Gradually with the accumulation of experience and the repetition of the procedure, a skill and rapidity of the technique develops which may well simulate a snapshot diagnosis. It is to be remembered *that the presence or absence of one or two characteristic morphologic traits does not indicate or rule out a certain dermatosis. It is the presence of the majority of its characteristic morphologic traits which determines the positive diagnosis of a certain dermatosis.*

(To be continued)

A DIAGNOSTIC STUDY OF INDUSTRIAL MEDICINE*

By C. O. Sappington, M. D.
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BEFORE proceeding to a definite discussion of various factors in industrial medicine some allegorical references may be in order.

AN ALLEGORICAL REFERENCE

Industrial medicine, a struggling youth of twenty years comes to us complaining of headache, palpitation of the heart, pains in the muscles and joints, loss of weight, and a feeling of general weakness.

The family and personal history show a gradual development of activities with the usual childhood and adolescent difficulties.

In the physical examination of this patient, let us assume that the medical profession represents the head. We find that the eyes show a considerable degree of myopia; the hearing is definitely impaired in both ears; a further examination of the right eye shows the presence of a sarcoma of the fee-splitting variety. Mental tests give the impression that there has been lack of coördinative planning and administration.

Let the heart represent industrial executives. Here there is a definite valvular leakage and there are "missed beats" and palpitation on the slightest exertion.

The lungs correspond to industrial commissions and boards. The findings show considerable dullness, whispered bronchophony and many fine râles at both apices.

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* From the Division of Industrial Health, National Safety Council, Chicago, Illinois.

* Given before the sixth annual meeting of the Michigan Association of Industrial Physicians and Surgeons, at Detroit, April 23, 1931.

The nervous system is represented by the insurance carriers. Examination shows the reflexes exaggerated at one time and inhibited at others; the pupils are unequal and sluggish in reaction; the Babinski and Romberg are positive, and the ankle clonus is increased.

The working population is synonymous with the muscular and skeletal systems. Much muscular incoördination is evident; the posture is poor; there is a definite atrophy of certain sets of muscles and hypertrophy of others.

Without attempting to carry the allegorical application any further, and submit laboratory findings which would probably only confirm this brief presentation of the physical findings, I think that we can safely assume that this is a fair clinical picture of our young patient, industrial medicine of today.

Now let us discuss briefly the application in relation to industrial medicine.

SIGNIFICANCE OF INDUSTRIAL INJURIES AND ILLNESSES

With approximately fifty million persons gainfully employed in the United States, and the loss from illness in industry totaling ten billion dollars a year, there must be definite reasons why industrial medicine has not assumed a more important place in our national life.

Speaking conservatively, there must be approximately twenty thousand industrial physicians and surgeons in actual practice, and yet after fifteen years a representative national organization in industrial medicine and surgery has approximately a membership of only 325. Three other official and unofficial organizations have sections on industrial medicine the membership and attendance of which has never reached more than one hundred each.

It would seem that the great opportunity lies in feeding a regular and nutritious diet of information and principles to the great number of part-time industrial practitioners and the welding of them into a homogeneous and coördinative group. Similarly, another great need lies in providing an adequate type of medical and health supervision for the employees in the great number of small plants constituting 95 per cent of all of our industrial groups.

Then, too, we must provide educational opportunities for undergraduates as well as postgraduate courses. This should be done on a national basis by a body whose authority and recommendations would be unquestioned. Certification of specialization on an optional basis would then be a natural development.

ATTITUDES OF INDUSTRIAL EXECUTIVES AND COMMISSIONS

Industrial executives and administrators as a rule are apparently unaware that it is their responsibility to provide safe and healthful working conditions for their employees. I have observed numbers of manufacturers who do not have adequate knowledge either of the processes or materials to which their workmen are exposed. It might be well here to mention the inseparability of safety and health work; their objective is the same, namely, protection; when safety and health supervision break down, the results are the same—disability, reduction of earning power, and economic loss both to employee and employer. Injuries may be classified as mechanical, thermal, photic, chemical, electrical, and bacterial, which means that there is no hard-and-fast line separating safety and health procedures. Finally, the causes and results of both illness and accidents are definitely concerned with the human body and mind.

Some industrial commissions have done excellent work, but I think most of us will agree that there is room for much improvement. The outstanding defect seems to be the disregard of respect for sound medical advice and the lack of provision for retaining one or more competent physicians as technical advisers. Any commission has the right to ask industries within its jurisdiction to make definite and specific provisions for the protection of the health and safety of employees; but, logically, it must also set up the mechanism by which such standards can be continuously supervised and maintained. I have recently had an experience which strikingly showed an elaborate preparation for the former, but an utter disregard for the latter.

Insurance carriers, with all their previous difficulties, are now finding new complications in the tremendously expanding field of underwriting new health risks. A considerable number of those who are honest admit that the technical difficulties involved are quite beyond their present capabilities, but they are doing what they can. In common with industrial commissions, they probably will eventually see the wisdom of retaining expert advisers on industrial hygiene; failure to do so will probably lead to economic difficulties and eventual annihilation in this increasingly competitive field.

The day of the "big stick" has passed; we are on the doorstep of an era when the individual employee will more and more seek what he thinks are his "rights." Is it bolshevistic for an employee to seek protection against the hazardous materials, processes, and practices to which he is exposed? Shall man-power be subordinated to production and monetary gain?

PROGNOSIS FOR INDUSTRIAL MEDICINE

Possibly I have painted a very pessimistic picture. Really, however, the prognosis for industrial medicine is quite favorable with the appropriate type of therapy. The great problems of industrial health and safety will never be solved until the emphasis is shifted from curative surgical and medical procedures to the preventive phases—not that the former are unimportant; in truth, the two cannot be dissociated.

There is cause for encouragement; a rainbow has made its appearance on the horizon. Of the approximately three thousand advisory letters written each year by the Industrial Health Division of the National Safety Council, 20 per cent refer to physical examinations; 60 per cent embrace chemical health hazards; the remainder refer to miscellaneous subjects. We have an increasing number of calls for health educational and informational material, and for suggestions for the carrying out of health courses and campaigns in industry. An increasingly larger number of questions are coming to us on the sociological problems of industrial health. A large industrial association has prepared a manual on health and first aid for distribution to its members.

We also have requests for actual statistical data showing the beneficial results accruing from employment physical examinations, periodic reëxaminations, the correction of physical defects, and the like. Such figures are obtainable only in rare instances and I do not need to further impress upon you the difficulty of showing tangible returns. The keeping and analysis of records is time-consuming and expensive, but such data must be provided if we are to establish the economic necessity for medical and safety services.

The administration of industrial medical programs shows all the permutations and combinations that are possible on a Chinese lottery ticket. Industrial relations groups claim that they are responsible for the administration of industrial medical and safety services; safety departments feel that medical and health procedures belong under their jurisdiction; it is comparatively rare, but has occurred, that a physician has undertaken the management of all three activities. Probably the ideal arrangement is to place all three departments on an equal authoritative basis and make them all directly responsible to the general manager. I can see no large measure of success for any unless all three activities are constructively coördinated.

Economists tell us that within the next five years efficiency will be increasingly emphasized and in meeting greater competition the industry which is most efficient will make the most progress. Certainly there is a direct relationship between health and efficiency, and I would interpret this to mean that more emphasis will be placed on health.

END TO BE ACHIEVED

Finally, I think that we can feel that this young man—industrial medicine—has a real chance for making a name for himself and building a character and reputation worthy of the consideration of other medical specialties. We envision, not an industrial world where employees live by health rules and become veritable hygienic robots—God forbid—but workshops, market places, and stores where employees will be given the opportunity to achieve the birthright of every useful citizen—a sane mind in a sound body.

NEUROPSYCHIATRIC CASE RECORDS*

A SUGGESTED OUTLINE

By Frederick L. Patry, M. D.
Albany, New York

THE following outline of neuropsychiatric examination is an effort to outline the minimal essential facts to be ascertained in the neurologic and psychiatric examination of a patient. Such a scheme, in the main, is at present utilized in the respective dispensaries of the Johns Hopkins Hospital, where the author was a one-time staff member.

Inasmuch as the time the student and clinician can usually give to each patient is all too meager, it is very important that the physician utilize a systematic mode of approach which at least gives attention to the minimal essential facts and is also time-saving and sound in content and method. Such a history must be selective, but also plastic enough to permit elaboration on important meaningful facts, especially if they can perhaps be used therapeutically, or at least light be thrown on the modus operandi of the psychobiological reaction.

Source and Reliability of the History.—Since patients often cannot give the history in logical sequence, it is often best to first take pencil notes and later record such in ink when they have been reviewed and corrected by the clinician in charge. In most cases it is not only unsatisfactory, but a waste of time to examine a patient who comes alone to the clinic. Every effort must be bent to obtain first the history from a relative, friend, or social welfare worker who may have at hand the pertinent facts of the case. It is an invariable rule that the informant should be interviewed first before attempting to examine the patient. Strict privacy should be maintained by proper separate cubical or examining-room facilities.

Neatness is desirable. Make headings for special topics, and underline important facts.

Complaint: Give a succinct, concrete statement of what the patient (in his own words) or others referring the patient would like help for, and the duration of each complaint.

Onset of Present Illness: Earliest changes and developments noticed by friends or experienced by patient, and their evolution. Situation; with special attention to facts involving difficulty of adaptation.

Personal History: Make the chronology definite. Born where, and when? Illnesses in infancy, childhood, adult life.

School.—Opportunities and results; give dates.

Positions held; efficiency; satisfaction in work.

Habits in regard to use of alcohol, tobacco, etc., and sexual indulgence.

Marriage and *children,* etc. Give dates.

In some cases we need detail of *personal development* and of *formation of habits.*

Personality: Thinks in terms of I (egotropic), or in terms of we (koinotropic); disposition; ability to get along with others, etc.

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* From the State Education Department of the University of the State of New York.

Note any difficult situations, especially any failures of adaptation and the reaction of such failures.

FAMILY HISTORY: Take with special reference to occurrence of insanity, nervousness, alcoholism, etc., in grandparents, parents, siblings, collaterals. Detail obligatory where positive facts are available. Chart family tree with usual symbols.

MENTAL STATUS:

1. *General Behavior:* (As observed by the physician.)

2. *Stream of Activity and Talk:* Note special characteristics, such as incoherence, flight of ideas, distractability. Give brief verbatim example to illustrate.

3. *Mood and Special Preoccupations:* Begin with a general question, such as: How do you feel? If necessary, make the question more specific, for example: Sad? Afraid?

Imaginations and Delusions: Any trouble recently? Peculiar experiences? (Have you been troubled by imaginations?) Been fairly treated? Persecuted? Under any special influence, for example, hypnotism, electricity, etc.?

Hallucinations: Do you hear voices? Do you see things? What, where, and when?

Obsessions and Compulsions.

4. *Sensorium and Intellectual Resources:*

Orientation: (As to places and dates and persons.)

Memory: (Specially important in organic psychoses.)

(*a*) *Remote past* (life with dates controlled in taking history).

(*b*) Recent past (some account of past twenty-four hours).

(*c*) Retention of memory tests (number, name, objects shown).

Grasp of General Information: (Presidents? Mayor? Wars? etc.)

Calculation.

Judgment: Ability to make reasonable plans, to give due value to practical considerations.

Insight into Sickness: Any admission of being sick or nervous? Realization of the nature of the disorder?

Speech and Writing Tests.

Intelligence (superior, average, borderline or subnormal).

PHYSICAL AND NEUROLOGICAL STATUS: * With particular attention to neurological status. Always note general *physical habitus* (asthenic or linear, pyknic or lateral, athletic or dysplastic type), nutritional status, condition of teeth, tonsils and nasopharyngeal patency; thyroid gland and any general glandular enlargement; pulse rate, blood pressure, temperature; also urinalysis, blood chemistry, lumbar puncture, x-ray, electrical reactions as indicated. A blood Wassermann test should be made routinely.

Dr. Frank Ford's negative neurologic form will assist in bringing to the front the minimal neurologic facts to be investigated:

Cranial Nerves: II—Pupils equal, central and circular; reaction to light and accommodation; vision subjectively good or poor; any gross defects in visual fields; are fundi negative. III, IV, VI—Negative. V—Negative. VII—Negative. VIII—Negative. IX, X, XI—Negative. XII—Negative.

Motor: No weakness, atrophy or fibrillations, grips equal, gait normal, no tremor or ataxia, muscle tone good, speech normal, no loss of sphincter control.

Sensory: No loss of deep or superficial sensibility made out. No astereognosis, no loss of sense of position or vibratory sense, no tenderness of spine, muscles or nerves, no pain or hyperesthesia.

Reflexes: Tendon reflexes all active and equal, no clonus, no Hoffman, abdominals active, plantars flexor.

SUMMARY: Briefly summarize (1) the most telling facts in the history and (2) the positive psychiatric and neurologic findings, grouping them so as to indicate their significance.

IMPRESSION: The formulation of reaction type, symptom complexes, tentative diagnosis, and other diagnoses to be considered.

WORK SHEET: Make a note of further topics and examinations to be investigated in subsequent interviews, laboratory examinations, social service facts, etc.

TREATMENT

Abnormal Children—Case Histories

A brief outline is here indicated for use in history taking in abnormal children.

FAMILY HISTORY: Is here specially important.

PERSONAL HISTORY: In the development special attention to:

1. *Neurotic traits* (night terrors, disturbed sleep, dreams, bed-wetting, "St. Vitus dance," stammering, capriciousness with regard to food, control of sphincters, attacks, etc.).

2. *Traits of Character* (difficulty of training, obstinacy, suggestibility; affection, cruelty; outbursts of temper; seclusiveness; cleanliness and orderliness; general adaptability; school record; special interests.

3. *Environmental influences* (rôle of father and mother, spoiling or severity, frankness or repression; sleeping arrangements, dietetic regimen, influence of comrades.)

MENTAL STATUS: When the child is below the school grade corresponding to age, test intelligence by Binet-Simon scale.

COMMENT

The above outlines of neuropsychiatric examination should be conceived as mere scaffolds on which are to be hung and elaborated further significant facts of examinations and investigations. They must be utilized in the perspective of one's trained and critical common sense, according to the best judgment of the examining physician, of the opportunities available, and of the needs of the patient.

New York State Education Department, University of the State of New York.

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* Whenever time permits, it is highly desirable that the psychiatrist make the physical examination of the person whom he is to diagnose and treat. Here is rich opportunity to observe patient-physician reactions, many of which may be significant in understanding the patient's personality and temperamental and emotional problems.

THE LURE OF MEDICAL HISTORY

LEVI COOPER LANE, M. D.—THE LANE POPULAR LECTURES*

By Emmet Rixford, M. D.
San Francisco

I

At a meeting of the faculty of the Medical College of the Pacific held in October, 1882, Dr. Levi Cooper Lane, president, and professor of surgery, invited the members of the faculty to join with him in the inauguration of a new medical college, he proposing to donate land and a large brick building which he had erected thereon, and that the institution should bear the name of Cooper Medical College in commemoration of Dr. Elias Samuel Cooper, who founded the first medical school on the Pacific Coast. He also announced the founding of a course of popular medical lectures to be given in the college each winter.

Anticipating, perhaps fearing, the effect of criticism and opposition to such an undertaking, Doctor Lane made the gift of the building conditional on the faculty's agreeing to give a course of free public medical lectures in the college building each winter. The idea was accepted, but we can imagine with how many misgivings. Would such lectures appeal to the public? They surely would not appeal to the medical profession, for in 1882 the profession gloried in the mystery of medicine and held that it was the business of the doctor to prescribe and of the patient to take his medicine. Would education of the public in medical matters do good or harm? There were arguments on both sides.

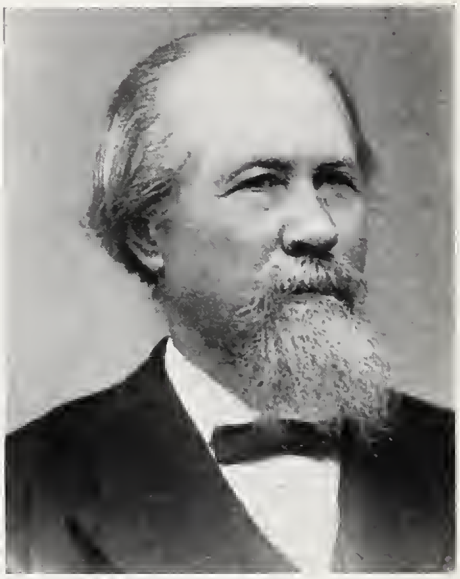
DOCTOR LANE'S STATEMENT OF HIS AIMS

Doctor Lane's own statement of his aims in founding this course of public lectures is published in the announcement of Cooper Medical College for the session of 1883:

"In the creation of this course the founder has entertained the hope that besides being a public utility it would tend somewhat to relieve medicine of the complaint of exclusiveness often charged against it—of neglecting to contribute its quota to the diffusion of knowledge in those departments of science with which medical men are familiar." Again, "A majority of these lectures will be on matters of public health, but some of more scientific character, it is believed, may aid in dispelling the errors popularly prevalent that our profession is making no advances; and show to the contrary that no scientist is working more faithfully than the medical; and that in no department of science are more new tracts of knowledge being added than in the medical."

STATUS OF MEDICINE IN THE EIGHTIES

The first course of Lane Popular Lectures was given January to May, 1883.



L. C. LANE, M. D.
1828-1902
Founder of Cooper Medical College

In 1882, be it remembered, modern medicine was just beginning to come into its own. Cellular pathology was scarcely thirty years old and bacteriology as a science may be said to have had its practical beginning with the invention of solid culture media by Koch in the seventies. It was announced to the word in 1880. It was in 1876 that he procured a pure culture of anthrax bacilli and in 1882 discovered the tubercle bacillus. Perhaps Doctor Lane realized that empiricism in medicine was being supplanted by experimental science and that in the practice of the art the mystery of medicine was passing, that the era was soon to come in which the greatest aid to the physician in serving the public would be the intelligent coöperation of the informed patient.

But, as he anticipated, he was severely criticized in the local medical society. The idea of public medical lectures was credited with being merely an advertising scheme, and even today there are those who feel that teaching medicine to the public can only do harm, on the doctrine that a little knowledge is a dangerous thing.

But Doctor Lane's purpose as set forth in his announcement above quoted was not to teach the laity to be half-doctors, but to stimulate their interest and their understanding of the labors and accomplishments of the medical profession, to the end that scientific research should be encouraged and supported.

DOCTOR LANE A PIONEER IN MEDICAL PUBLICITY

In these ideas Doctor Lane was nearly fifty years ahead of his time. Witness today the great volume of medical literature which is being published for consumption by the laity: a column in the daily press of every city in America, for medicine today is news, to say nothing of radio broadcasts of medical information and the wide circulation of such serious books as Conklin's "Heredity and Environment," and de Kruif's "Microbe Hunters," Haggard's "Devils, Drugs and Doctors," as well as the fascinatingly humor-

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* Lecture delivered at the fiftieth consecutive course of Lane Popular Lectures, given under the auspices of Stanford University.

ELIAS COOPER, M. D.
1822-1862
Founder of the Medical College of the Pacific

ous story of San Michele by the redoubtable Doctor Munthe.

Even the founding and development of a great religious organization based upon the denial of the very existence of disease in the long run can have only the effect of stimulating interest in medical science, just as the famous trial of Stokes in Tennessee for teaching evolution has led to a bootlegging of books on biology and evolution in that state which rivals the illicit traffic in alcoholic stimulants.

That the Lane popular lectures have continued for fifty years without interruption, and from the beginning with creditably large audiences, strongly attests the success of the undertaking and amply vindicates the foresight of Doctor Lane. Twenty or more years after Doctor Lane founded this course of popular lectures, Harvard Medical School inaugurated a similar course. More recently special groups are seeking to influence the understanding of the public for its good, such as the Society for the Study and Prevention of Tuberculosis, the Society for the Control of Cancer, etc. And to speak of local matters, only this winter the Oakland Forum, in spite of opposition of its unbelieving members, is giving a course of medical lectures, the speakers being members of the faculties of our two university medical schools.

The Lane popular lectures were ten in number each year, given on alternate Friday evenings, generally from January to May; occasionally the course was started in December.

COMMENTS OF SOME OF THE EARLY LECTURES

The program of the first set of lectures was as follows: By Dr. Clinton Cushing, "Physical Education of Women"; by Dr. Henry Gibbons, Sr., "Influence of Belief Upon Man's Organization and Character"; Dr. C. N. Ellinwood, "The Perpetuation of Disease"; Dr. J. H. Wythe, "Mind and Brain"; Dr. L. L. Dorr, "Suicide"; Dr. W. G. Johnston, "Food and Its Adulteration"; Dr. Henry Gibbons, Jr., "Infant Food"; Dr. J. O. Hirschfelder, "Contagious Diseases and Disease Germs"; Dr. Adolph Barkan, "How Do We Hear and How Do We Lose Our Hearing?"; Dr. L. C. Lane, "Anesthetics."

The earlier lectures were by the older members of the faculty, but Doctor Lane had another object, namely, to furnish an opportunity, I might say an obligation, to the younger men on the staff to accustom themselves to public speaking. I can assure you from personal experience that it seemed to us very much more of an obligation than a privilege. Doctor Lane never procrastinated. He was always ready ahead of time. I well remember his asking in September or October if I had written my lecture to be delivered in February. Of course I had not, but Doctor Lane, looking over his glasses and far away, said that he had finished his lectures some weeks ago. While most of the lectures were on medical subjects, matters of public health, Doctor Lane himself sometimes went far afield and took advantage of the opportunity to voice his very strong opinions and perhaps protests on public questions; for example, on one occasion he read a powerful protest against the "indiscriminate killing of meadow larks." Again he spoke on the beauties of Golden Gate Park. Some of his other titles were, "Cremation and the Cult of the Dead," "Vaccination," "Light and the Means of Illumination," "Coffee," "Sorcery," and "The Horse, Man's Most Helpful Animal."

The course of 1887 might perhaps be repeated today for Dr. Clinton Cushing spoke on "Water," Doctor Steele on "Alcohol," and Dr. W. S. Whitwell on "Opium Habit." Some of the lectures might have been given in the Academy of Sciences. Dr. W. D. Johnston, for example, spoke on "Lower Forms of Life," Doctor Barkan on "Color Sense and Color Blindness," and Doctor Wythe on "Recent Advances in Microscopy" and again on "Heredity." A notable lecture in 1888 by Dr. Henry Gibbons, Jr., was entitled "The Utility of Pain," and another in 1889, on "Health and Melancholy," and one by Dr. Samuel O. L. Potter, "Diseases from Animals to Man."

A BIOGRAPHICAL SKETCH OF DOCTOR LANE

But since my topic is Doctor Lane and the Lane Medical Lectures, I feel that I should give a brief biographical sketch of Doctor Lane, and some estimate of his character and work, though I do it with fear and trembling and many misgivings.

DOCTOR LANE'S LITERARY HABITS

Doctor Lane was a highly educated man. With a fair preliminary education, he continued to be a student throughout his long life. Never robust, it was by sheer force of will and self-discipline, and by dividing his sleep, that he formed the habit of using six or seven hours in the middle of the night for study. Six nights in the week he read medicine and did his writing, the seventh night he read in general literature. Thus he was widely read, especially in the literature of surgery in the nineteenth century. He was fond of the classics, read Greek and Latin, also French, German and Spanish. He translated Billroth's Surgical Pathology for his students, laboriously writing it out in longhand in blank books, finishing this or that chapter at three or four in the morning. He read Hippocrates once a year in the Greek.

Biographical Sketch.—Levi Cooper Lane, born in Ohio, May 9, 1828 (or 1829), of English Quaker parentage, had some preliminary training at Farmer's College near Cincinnati, and later attended Union Theological Seminary, now Union College, Schenectady, New York. This institution later granted him the degree of M. A. and, in 1877, LL. D.

He was graduated in medicine from Jefferson in 1851, and spent the following four years as interne and house officer at Ward's Island, New York. In 1855, he passed examinations for entrance to the United States Navy, the highest in a class of one hundred, his record remaining as the highest in Navy examinations for many years. His thesis on External Urethrotomy was submitted in Latin. For a time he was stationed at the great naval hospital at Quarantine, Staten Island, New York, where, he always said, he learned to know typhoid fever. In fact he was himself desperately ill with it. When on sea duty, his ship was stationed on the coast of Central America, where he learned Spanish. At Chinandagua, Nicaragua, he performed his first operation for goitre (1858). Incidentally, it may be mentioned that the ship became the refuge of some of the members of the Walker filibustering expedition.

Resigning from the Navy in 1859, he joined his uncle, Elias Samuel Cooper, in practice in San Francisco, and at once entered the medical school as professor of physiology.

The Toland Medical School.—After the death of Doctor Cooper in 1862, the medical school languished and, in 1864, when Dr. H. H. Toland founded the Toland Medical School and built a commodious permanent building on Stockton Street near Francisco, a few blocks away from the County Hospital, the old school went out of existence. Its students were transferred to the Toland School, and Doctor Lane, Dr. Henry Gibbons, Sr., and some other members of the faculty became members of the faculty of the new school. But in 1870, because of internal dissentions, Doctor Lane and Doctor Gibbons resigned and reorganized the old school with most of the members of the old faculty as professors or professors emeritus. From that date to the present the school has been in session without interruption.

Cooper Medical College as such graduated its last class in 1912. It had given its entire property, college buildings, Lane Hospital, Lane Medical Library, all its real estate as well as all of its reserve funds, to Stanford University for its medical school, on only two conditions. First, that "the properties should be used for the purpose of medical education in the sense of teaching young men and young women to be practitioners of medicine," and second, "that Dr. Lane's memory should be suitably preserved."

Reorganization of the Medical School.—Having in the beginning no charter from the state or other authority for the granting of diplomas, the school was taken under the wing of the so-called University City College, a Presbyterian school, the old building of which is still standing at University Mound, south of Islais Creek, San Francisco, and is now used as an Old Ladies' Home. The consideration for the moral support of the school was the offer to give free tuition in medicine to two students each year, nominated by the Presbyterian organization, fitting the young men for positions as medical missionaries. The same privilege was also accorded the Methodist Church, presumably because of the fact that the original school, the Medical College of the Pacific, had similar relation to the Methodist school at San José, the College of the Pacific.

The school first had its sessions on Stockton Street between Geary and O'Farrell, at the present site of the City of Paris dry goods store; and there Doctor Price, the chemist, had his laboratory. He was professor of chemistry in the university and became such in the new medical school. A few years later the school moved to Haight Street and remained there until November, 1882, when, as said above, Doctor Lane presented the present college building to the institution, changing its name to Cooper Medical College.

(To be Continued)

RANCHO LOS AMIGOS*

(Formerly Los Angeles County Poor Farm)

In 1888 Rancho Los Amigos was separated from the Los Angeles County Hospital and so as an individual institution it has performed for forty-four years an indispensable humanitarian service for the county of Los Angeles. Its growth has followed very closely the increase in population of the county, the ratio of patients to county population in normal times being approximately 1 to 1,100. Following the population curve of the county, growth was slow until 1912, when the increase became more rapid and finally, in 1929, demands for admission to the Rancho exceeded the bed capacity. Since 1929 the population has increased by about 1,000 and today is 2,910 compared to a county population of approximately 2,300,000—a ratio of 1 to 750. It was in 1915 that Mr. William R. Harriman, now superintendent of charities, was appointed to the position of superintendent of the County Farm. From that time onward the growth of the institution was controlled by a well developed and logical program which is responsible for the present efficient arrangement of buildings and wards that will permit future growth without crowding or interference of the separate services.

Originally the only class of patients cared for were those enfeebled by age or chronic illness not requiring medical or nursing care. In 1912 there was added to the institution a psychopathic ward in which custodial care was given to chronic mentally ill and harmless insane not entitled to admission to state hospitals. Later, in 1924, a new service was inaugurated to provide medical and nursing care to individuals chronically ill requiring bedside attention from one year's end to the next.

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* Excerpt from a report submitted at a meeting of the Medical Board of the Los Angeles County General Hospital, Unit One, by Superintendent E. J. Gray.

Prior to the inception of this infirmary service there were no resident physicians at the Rancho and medical attention for the patients was received through the service of an intern assigned from the General Hospital. It was on such a service that Dr. P. Berman, the present medical superintendent of the Los Angeles County General Hospital, served a good portion of his internship.

Since 1924 the infirmary group has grown more rapidly than any other division of the Rancho, until today 1,050 of the total population of 2,910 are in infirmary beds. On the institutional staff there are 630 full-time civilian employees, of which 245, exclusive of the medical staff, are in the infirmary wards—the ratio of employees to patients being 1 to 4⅓.

The medical staff to care for the entire institution consists of a chief resident physician, six resident physicians, a dentist, four consulting specialists in genitourinary diseases, psychiatry, eye, ear, nose, and throat, and x-ray. The graduate nurses total fifty.

CLINICAL NOTES AND CASE REPORTS

CHLORINATED OPERATING ROOM LINENS—A CAUSE OF PERITONEAL ADHESIONS

REPORT OF CASE

By H. H. Parsons, M. D.
San Bernardino

A RECENT harrowing experience forcibly directed my attention to the absolute necessity for properly preparing operating room linens and, in particular, to the fact that all packs, towels, and lap sheets should be laundered separately from the general hospital wash, and that no bleaching solution should be used. Some hospitals re-use abdominal packs, send them to the general wash and have them bleached with the other linens. It is to this baneful practice that I wish to call attention through the following case report.

REPORT OF CASE

On September 11, 1931, I performed an abdominal section on a physician's wife, removed a subacutely inflamed appendix and explored the abdomen. While looking for a possible Meckel's diverticulum, a few loops of ileum were covered with a hot moist pack, and after the examination the abdomen was closed.

Following the operation, she did well for four days and then she began to complain of "gas" pains and three days later she began to eruct fluid. This eructation later developed into vomiting. Meanwhile enemas were effectual, but became less so daily, until on the tenth day she developed a complete obstruction.

On September 22 the abdomen was reopened through the original incision, only that the peritoneum was opened to the left to avoid adhesions. The omentum and the ileum were adherent to the original peritoneal incision by dense, well organized adhesions. These were freed. The terminal ileum, omentum, and transverse colon were matted together by a mass of well organized adhesions and one loop of ileum was doubly bent upon itself, causing the obstruction. After releasing the obstructing loop the abdomen was closed.

These adhesions were the heaviest that I have ever seen, and one of my colleagues remarked that they appeared as though five years old. I suggested that they looked as though they had been caused by iodin being poured into the peritoneal cavity.

COMMENT

After considering all possible sources of irritation that might have caused these adhesions we inquired about the laundering of the operating room linens, in particular the abdominal packs, and found that they had been washed in the hospital laundry along with the other hospital wash and that they had been bleached with the other wash. They were then sent up for sterilization. It was stated that this had been done only during the absence of the operating room nurse who was on vacation.

I examined a pack from the same source and found it to contain an abundance of free chlorin, by the silver nitrate, ammonia and nitric acid test. Evidently this free chlorin was the cause of the adhesions.

That this is a very serious state of affairs is evident, and I think all surgeons should check on their hospitals with the idea of correcting such practice, which must be very common and widespread and which may lead to medico-legal litigation.

Inquiry at several hospitals in this vicinity disclosed that most of them had their operating room linens done in the general hospital laundry and that bleaching chemicals were used; so it is not difficult to imagine why adhesions, obstructions, postoperative pain, etc., are so frequently found. It would be better to use only new packs.

CONCLUSIONS

Many hospitals are using chlorinated operating room linens.

They are a prolific source of intestinal adhesions.

Surgeons should check the methods of preparing packs, towels, and drapes.

A medico-legal question may very easily arise.

Fox Theatre Building.

MESOTHELIOMA OF THE PLEURA*

REPORT OF CASE

By G. K. Hashiba, M. D.
A. B. Cowan, M. D.
and
Charles E. Nixon, M. D.
Fresno

PRIMARY malignant tumors of the pleura have been described under various names, the most common one being "endothelioma." The considerations that have influenced a number of pathologists in preferring the term "mesothelioma" are discussed by Zeckewer,[1] Dubray,[2] and Rosson.

Instances of primary malignant neoplasms of the pleura are very rare. Lord [3] states that there

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* Read before the staff meeting of the Fresno County Hospital, May 6, 1932.

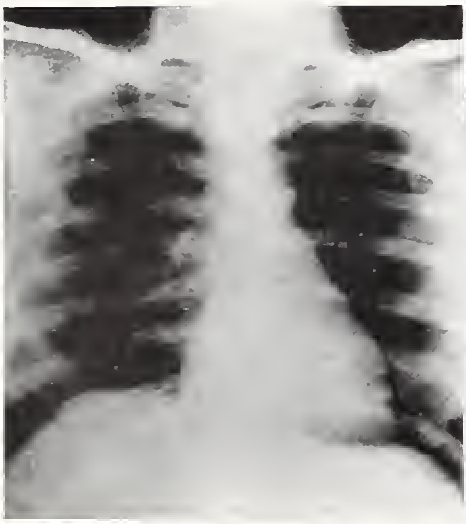

Fig. 1. — X-ray plate taken on February 3, 1931, at the onset of the disease. Apparently normal chest film.

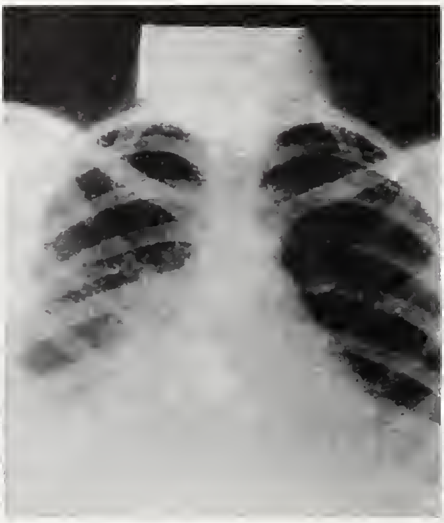

Fig. 2.—The chest plate taken on March 19, 1931, indicating increased density at the lower right chest, suggestive of presence of fluid and thickened pleura.

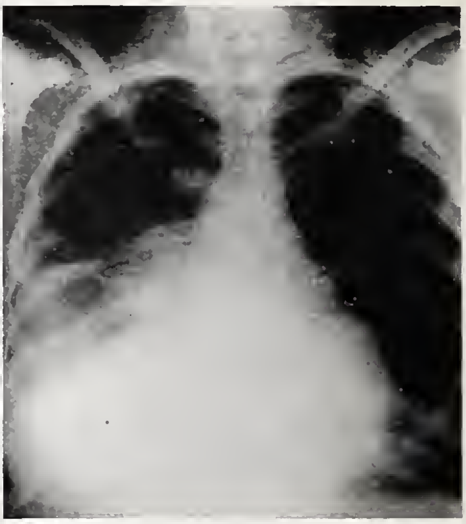

Fig. 3.—The x-ray plate taken on April 30, 1931, showing much denser shadow in the right lower chest.

are not more than fifty cases reported in the literature. The clinical diagnosis of this condition offers considerable difficulty, at least until the disease is well advanced, and because of its rarity is usually not considered, thus accounting for the fact that the diagnosis in a number of the reported cases was not made until the necropsy.

From the standpoint of the diagnosis of this condition, Brewer [4] states: "Growth of this tumor is slow; symptoms and signs are those of pleural exudate. Pain, irregular temperature, and leukocytosis are present. Diagnosis is generally established by the introduction of a needle and after withdrawing the fluid the physical signs remain unchanged. The sensation imparted to the hand thrusting a needle through solid, resistant tissue will also serve to confirm the diagnosis." The rarity of the disease and the difficulty in arriving at a correct diagnosis prompted us to report the following case.

REPORT OF CASE

From about the middle of January, 1931, an Italian girl (A. B.), age fourteen, began to have pain in her right chest, dry cough, profuse sweating, chills and fever. The patient was seen the first time two weeks after the onset of her illness.

She looked pale, rather emaciated, was coughing almost incessantly and bitterly complained of the pain in the chest on respiration. On physical examination, distinct friction rubs were heard on the right side; temperature was 102, white blood count, 12,000; lymphocytes, 28 per cent; red blood count, 4,700,000; hemoglobin, 70 per cent. The x-ray plate was negative (Fig. 1). A diagnosis of pleurisy was made.

Early in March, 1931, the first signs of fluid were manifest in her right chest. Up to this time she was running an irregular temperature and coughed a great deal, but there was practically no expectoration; the afternoon temperature ranged from 102 to 105; there were profuse night sweats. A few cubic centimeters of the fluid were removed for examination. It was moderately turbid, straw-colored, contained many polymorphonuclear leukocytes, lymphocytes, and a few red cells. No acid-fast bacilli were found. The Von Pirquet was negative. The x-ray plate taken at this time was interpreted as tuberculous pleurisy with effusion (Fig. 2).

Gradually dullness extended almost to the apex on the right side and began to embarrass respiration. Thoracentesis was done, withdrawing more than 1000 cubic centimeters of a similar fluid. Thoracentesis had to be repeated several times during the following eight weeks. During this time it was noted that her chest wall gave considerable resistance to the aspirating needle, as though the needle was going through a thick wall of hardened tissue. It was also noticed that the removal of the fluid did not cause any very marked change in the physical signs. An x-ray plate was taken at this time (Fig. 3). The white blood count was 10,800; lymphocytes, 30 per cent; red cells, 3,700,000; hemoglobin, 48 per cent. Whole blood transfusions were done twice and were followed by some improvement.

On May 5, 1931, an exploratory thoracotomy was done on the basis of a possible malignancy. We found general and diffuse thickening of the parietal and dia-

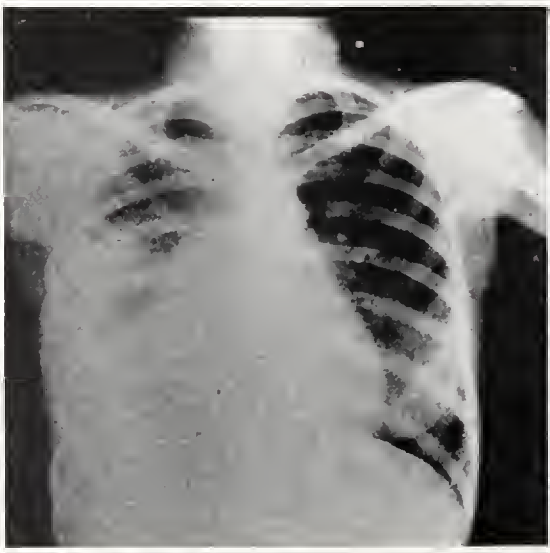

Fig. 4.—Chest plate taken on July 21, 1931, three months after the exploratory operation, showing rapid increase of the shadow in the right side.

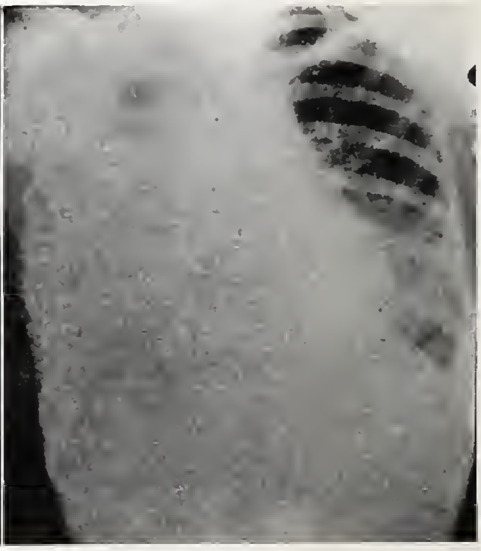

Fig. 5.—Appearance of chest a few weeks before death, after several deep x-ray treatments.

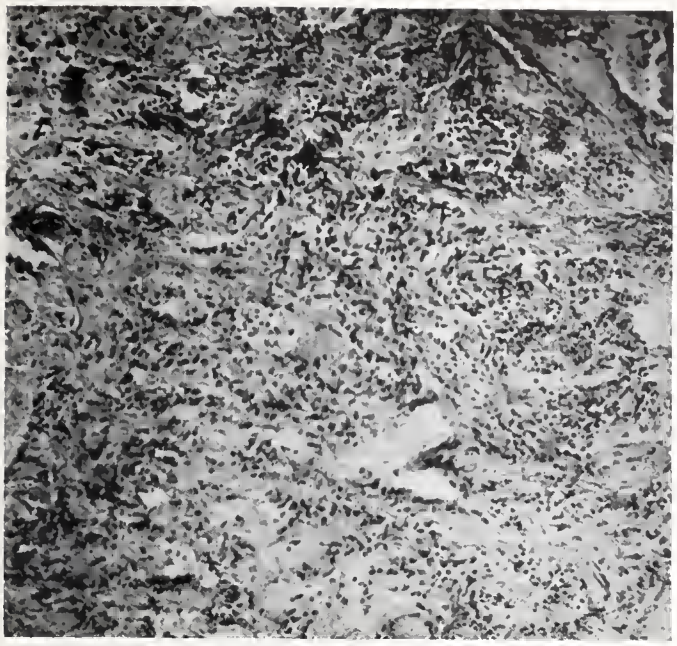

Fig. 6.—Section of the tissue removed on May 5, 1931, at the exploratory operation. Stained with hemotoxylin eosin.

phragmatic pleurae, so that the pleural cavity looked very much reduced. The surface everywhere was smooth; the parietal pleura was about one-third of an inch thick. The diaphragmatic pleura was hard and board-like. A hard resistant mass was felt toward the pericardium. The lung was soft, lying in the depth of the cavity, partly collapsed. A small piece of tumor was removed from the surface of the diaphragm for examination. The wound was closed. The section was diagnosed as mesothelioma (Fig. 6).

Deep therapy x-ray treatment was given as a palliative measure by Dr. Frank Ruff of Fresno. Under its influence the patient made very remarkable temporary improvement. Up to this time she was a bedfast patient, running an irregular fever, profuse sweating, and suffered from an extreme anorexia; but now she began to eat, the temperature dropped to normal, and she was able to be up and around the house and even went to movies at times. This seemingly happy, optimistic period lasted for nearly five months, but x-ray plates taken during this period clearly indicated the hopelessness of her condition (Figs. 4 and 5).

On October, 1931, a nodule appeared over her forehead, another on the back of her head. A little later another on her right elbow. She became bedfast and in November, 1931, generalized metastasis overwhelmed the patient. Autopsy was refused.

Fresno General Hospital, Fresno.

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4. Brewer: Keens Surgery, 3:537.

URTICARIA—ITS PASSIVE TRANSMISSION BY BLOOD TRANSFUSION

By Hall G. Holder, M. D.
San Diego
and
William E. Diefenbach, M. D.
La Jolla

The first observation of the passive transmission of human hypersensitiveness from man to man was made by Ramirez[1] following the routine transfusion of blood from a donor with horse-dandruff asthma. Subsequently there have been numerous reports,[2,3,4,5,6] of the experimental transmission of either a local or general idiosyncrasy from one individual to another. We are unaware, however, of another such occurrence following the transfusion of blood. The case described here is of this type and is interesting in that the idiosyncrasy was evidenced by an urticaria rather than an asthma as in the case reported by Ramirez.

REPORT OF CASE

Mrs. I. F., aged 43, was admitted to the Scripps Memorial Hospital January 31, 1931, by Doctor Diefenbach with a history of poor health for the past seven years, during which time she contracted numerous colds and sore throats. She was informed of a secondary anemia by her physician which she believed accounted for her almost constant state of exhaustion. Her present illness was of twenty-four hours duration, consisting of high fever associated with extreme malaise and a painful inflammation about the vulva and in the vagina.

Examination.—Examination revealed a middle-aged woman, appearing to be acutely ill, with a temperature of 104 degrees; well nourished but with a distinct icteric tint to the skin. There was some prominence of the eyeballs but no definite exophthalmos, pupils equal and regular, extra-ocular movements normal. The mucous membrane of the conjunctiva was pale; no petechiae. The mucous membrane of the mouth was likewise pale, gums and teeth normal, pharynx and nose negative, no lymph adenopathy, no enlargement of the thyroid gland. Examination of the lungs showed normal resonance and vesicular breathing throughout. The heart was normal in size, rate increased from the hyperpyrexia, with no adventitious sounds or arrhythmia. The abdomen was slightly distended and tympanitic with no organs or masses palpable. The area of liver dullness was essentially normal. About the external genitalia was an ulcerative inflammatory reaction which involved the mucous membrane of the vagina, giving the appearance of a grayish membranous slough which discharged a foul-smelling purulent exudate. The blood pressure averaged 116/70; the urine was negative on repeated analysis; the blood count repeated for verification showed: red blood cells 3,000,000, white blood cells 1800, hemoglobin 63 per cent, color index 1.4, polynuclears three to six per cent, small lymphocytes 90 per cent, large lymphocytes six per cent with the remainder transitional cells. Smear and culture of the vaginal discharge showed a gram positive diplococcus. Blood culture was negative; Wassermann negative; basal rate plus eight. Diagnosis: Agranulocytopenia.

Treatment.—Treatment consisted of general hygienic care, local antisepsis to vulva and vagina, two blood transfusions of 500 cubic centimeters on January 7, 1931, and February 4, 1931, x-ray to the long bones and adenine sulphate intravenously as a bone marrow stimulant. The patient slowly improved until her discharge from the hospital on March 20, 1931, at which time she was feeling better than for many months. The blood count at this time was as follows: red blood cells 4,470,000, white blood cells 7980, hemoglobin 88 per cent, polynuclears 61 per cent, small lymphocytes 33 per cent, large lymphocytes four per cent, and transitionals two per cent.

During follow-up observation shortly after discharge from the hospital the patient complained that she definitely associated attacks of urticaria, which she had never before experienced, to the ingestion of strawberries. Careful history as to any type of allergic manifestations on her part was entirely negative. Both donors were Kahn negative International Type "A" and cross matched satisfactorily with the patient and on investigation the second was found to have been very sensitive to strawberries all his life as indicated by violent urticarial reactions following their ingestion.

This passive transmission of hypersensitiveness occurred on February 4, 1913, and about one month later strawberries were eaten for the first time followed by a generalized urticaria lasting for twenty-four hours. Recurrent attacks of equal intensity occurred after eating strawberries for a period of about three months when the urticarial reaction gradually became less severe, finally disappearing over a period of another month which was approximately four months from the time of transmission. That this hypersensitiveness was only temporary is further indicated by the absence of a recurrent attack for nearly one year, although strawberries have been taken repeatedly.

COMMENT

From the above report it would seem well to reëmphasize the suggestion of Ramirez that a history of anaphylactic manifestations should be included in the routine examination of prospective blood donors.

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TROPHIC DISTURBANCE OF FINGERS AND TOES

By E. J. Hiscox, M. D.
Loma Linda

On October 13, 1929, a 58-year-old Armenian patient was admitted to the Loma Linda Sanitarium and Hospital. His fingers and toes showed such unusual changes that we are giving a brief summary of history and findings, and presenting roentgenograms and photographs of the hands.

The patient was by calling a minister of the Armenian Apostolic Church. His complaint on entrance was pain in the chest associated with dyspnea, vertigo, and slight tremor of the right arm. The chest pains would sometimes come on while resting, but did not disturb sleep. In the main, however, the pain was initiated by exertion. The onset had been sudden (February 12, 1929) and attacks were becoming more frequent and more severe.

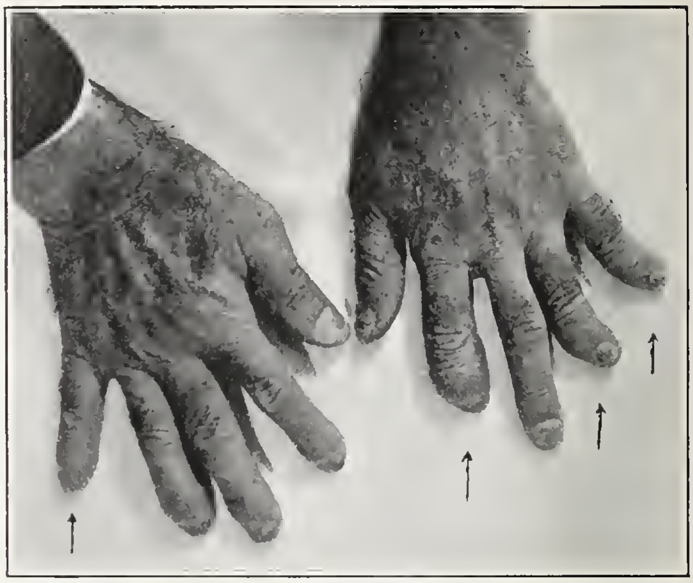

Fig. 1.—Trophic disturbance of fingers.

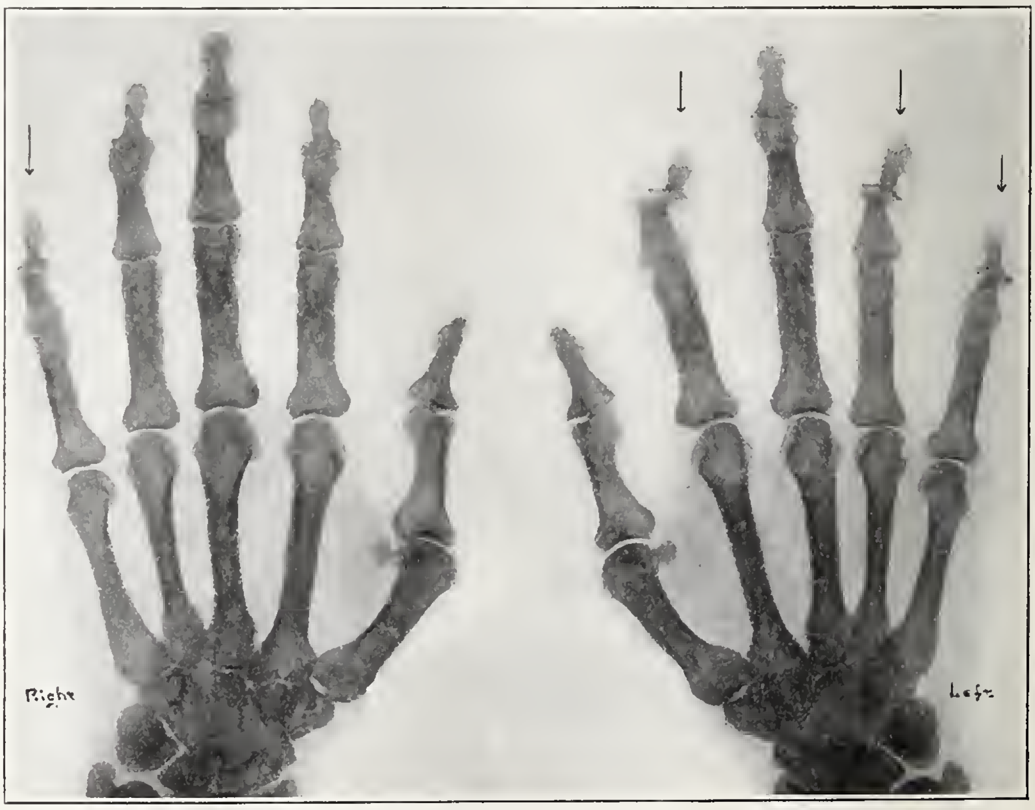

Fig. 2.—Roentgenograms of hands shown in first figure.

His past history may be summed up as follows: Residence was in Armenia until the age of eighteen, and since in the United States. Diseases: measles at the age of six months; smallpox at the age of thirty-eight; deformity of fingers, according to the patient, was of about twenty years' standing, and any soreness associated with them had been of minor nature; accidents none. Operations: right lower turbinectomy in 1919. Habits: walked three to ten miles a day, used no drugs, alcohol, or tobacco.

Questions with reference to the system evoked practically negative answers except for his chief complaints and a slight constipation.

The father "died of fright" at the age of thirty-five. Otherwise the family history was negative.

Findings were as follows: Temperature ranged from 97.2 to 98.8 degrees; pulse, 64 to 80; respiration, 20; tonsils were inflamed and contained pus; the nasal septum was markedly deviated and thickened; the pulses were synchronous and equal; peripheral vessels compressible; systolic pressure was 152, diastolic 90. The left cardiac border was at the midclavicular line, right border one and one-half cubic centimeters from the midsternum. A_2 was greater than P_2, with a distinct metallic quality of sound. No murmurs, thrills or arrhythmias were detected before exercise; immediately after exercise the pulse reached 126, accompanied by a musical systolic murmur. One and one-

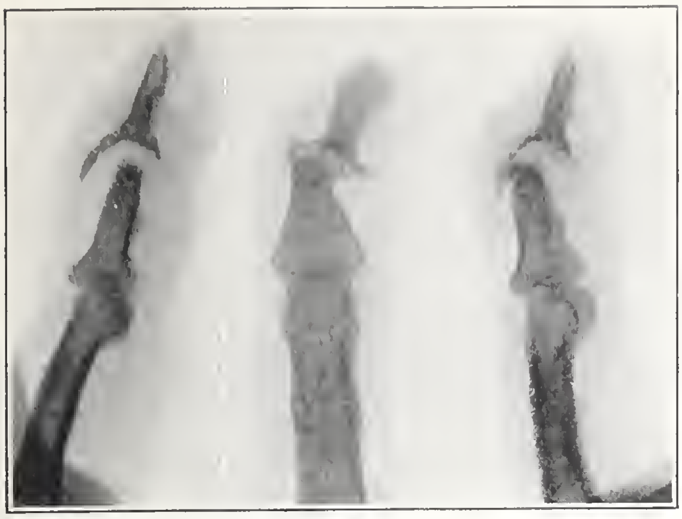

Fig. 3.—Detail view of fingers.

half minutes later the rate was 78. The ephedrin test for angina was negative. An electrocardiographic tracing was normal. Stereoroentgenograms of the dorsal spine indicated a slight scoliosis, but no other bone pathology. However, a calcified ring shadow was evident in the aortic arch, indicating some sclerotic changes there. No pathologic changes in lungs. Psoriasis was present on the scalp, chest and anterior abdominal walls and probably the fingernails.

Laboratory findings were: Negative blood Wassermann; metabolic rate of minus 15 per cent (after thirty days of daily dosage of one-half grain of thyroid it was still minus 15 per cent); normal level of gastric acidity; a blood picture showing mild secondary anemia; and a thirty-day blood culture, after the method of culture for arthritis, produced a growth of streptococcus.

The most interesting feature of the case was the deformity of most of the toes and several fingers—the right fifth, and the left second, fourth and fifth. The finger deformity, on inspection, consisted of an enlargement, shortening and hypermobility at the terminal joint with ulnar deviation of the terminal phalanx of the left second and fourth. There were no evidences of inflammatory reaction about the fingers. Roentgenograms showed the typical deformity appearing as an absence of the distal end of the second phalanx of involved fingers, the stump-like end of the shaft fitting into the concavity of an eggshell-like cupped extension (chiefly posterior) of the proximal end of the terminal phalanx.

The patient was in the institution a little over a month and several therapeutic tests were made to relieve the chest pain, *viz.*, euphyllin tablets 1, three times a day, with no marked relief; tincture digitalis, one-half cubic centimeter, three times a day, producing no particular change; and as a last resort, elixir triple bromids, four cubic centimeters, three times a day, p. c., apparently gave as much relief as anything. The patient went home slightly relieved of his complaints. Twenty-three days later he wrote that he had passed through a railroad disaster which nervous shock brought back the pain in his chest for thirty minutes.

From the blood-culture growth an autogenous vaccine was made and sent to his family physician for administration. He received a severe reaction from the eighth dose and the physician was loath to continue the treatment. Several attempts to get in touch with the patient since that time have failed.

One radiologist reported that the pathology is "undoubtedly due to a trophic disturbance. Lesions like these are seen with syringomyelia or old vertebral fractures. The erosion of the terminal ends of the middle phalanges is also very similar to the changes seen in leprosy, but in this case the tips of the terminal phalanges are normal. Somewhat similar appearances have been seen with diabetes, but the exact etiology is entirely a matter of guesswork."

Loma Linda Sanitarium and Hospital.

Effects of Economic Crisis on Children.—The Deutsche Gesellschaft für Kinderheilkunde, at its meeting in Dresden in September, 1931, expressed in a proclamation the fear that the long-continued economic crisis might cause a general weakening of resistance to disease in the oncoming generation. Observations made during the war show that children suffer the most from inadequate nutrition. For that reason, Gottlieb and Stransky of the Vienna public health service examined eight hundred young children, establishing the weight of each child. They report in an article in the *Klinische Wochenschrift* that the number of underweight children in families that had been at least a year without a definite source of income was considerably higher than the number of children showing overweight. Among the children of employed parents, however, the number showing overweight was more than twice as large as the number presenting underweight. The children of the unemployed, ranging between two and four years of age, show an especially large number who are underweight. In children five and six years old, the differences are not so marked. The results of these investigations appear to justify the fears of the Deutsche Gesellschaft für Kinderheilkunde. While the conditions among school children are at present more favorable, there can be no doubt that, if the economic crisis continues, they also will soon present symptoms due to inadequate nutrition, as is apparent from investigations made in some of the industrial sections of Lower Austria.—*Journal of the American Medical Association.*

Financing Hospitals by Sweepstakes.—The immense success with which the Irish hospitals have become parasitic on the gambling spirit of the world is producing ulterior effects. The last sweepstake but one reached the enormous total of $20,000,000, of which $14,000,000 was distributed in prizes and $1,500,000 paid in expenses. Instead of paying the remaining $4,500,000 to the hospitals, the Free State government now takes half of it—one-fourth as "stamp duty" and another for public health purposes. A large part of the money comes from Great Britain, and the feeling has naturally arisen that, if the British people will gamble in this way, their own hospitals should reap the benefit. In the six sweepstakes that have been conducted, Great Britain subscribed $66,000,000, of which $35,000,000 was returned in prizes. Such gambling is illegal in Great Britain and some prosecutions have taken place for selling tickets; but it has proved impossible to check their sale. It is now proposed to get over the obstacle of illegality in Great Britain by forming a syndicate in Monte Carlo by means of which British citizens can gamble on sweepstakes to the benefit of their own hospitals. A start is to be made early in 1933 by sweepstakes on an English horse race. There is some question as to how much the government of Monaco will share in the profits; half has been mentioned, but it is thought that this fraction may be considerably reduced.—*London Letter.* (*Journal of the American Medical Association.*)

White Walking Sticks for the Blind.—The automobile, which has brought so much danger to the pedestrian, is especially dangerous to the blind. The ingenious idea that the blind should carry white walking sticks, as a sign of their infirmity, is being put into practice. Institutions for the blind are now supplying these sticks, which will become a recognized warning to automobile drivers.—*Journal of the American Medical Association,* Vol. 99, No. 18.

BEDSIDE MEDICINE FOR BEDSIDE DOCTORS

An Open Forum for brief discussions of the workaday problems of the bedside doctor. Suggestions of subjects for discussions invited.

TREATMENT OF ACUTE CORONARY THROMBOSIS

Robert William Langley, M. D.' (1930 Wilshire Boulevard, Los Angeles).—Any treatment directed toward the relief of symptoms in this most distressing type of heart disease must be planned along the lines of the pathologic changes that are present, and a knowledge of what one expects to accomplish in aiding the restoration of normal physiological function.

The prime factors are physical rest and relief of pain. There are certain objective signs present, usually those indicating the seriousness and magnitude of the cardiac injury, such as pallor, restlessness, a face expressing intense agony, profuse sweating, shallow breathing, and cyanosis: in other words, symptoms of severe shock. One must treat these symptoms in a like manner to those of surgical or any other form of shock; namely, heat to the extremities, small doses of mild stimulants such as brandy, whisky, coffee and so forth. A word of warning should be issued against the promiscuous use of such agents as adrenalin. Their actual value is open to question even where profound shock is present. Caffein sodium benzoate is indicated where circulatory collapse is found and should be used in full doses of seven and one-half grains hypodermically when necessary. A p. r. n. order for this drug should not be left with the nurse, as frequently only one or two doses are needed.

What is here written deals primarily with the treatment of the acute case, and for the most part with symptomatic suggestions. First and foremost from the patient's standpoint, is pain. He complains bitterly of its severity, and would far rather suffer death than its continuance. This pain will not be relieved by any half way measures, and a full dose of morphin sulphate is the first consideration after the diagnosis has been made.

The stature, age, weight and so forth should be considered briefly before determining the dose to be used. If the patient be under 150 pounds in weight, it would be well to inject one-fourth grain of morphin sulphate intramuscularly, massage the site of injection for a few minutes, and watch for results. If there is only slight or practically no relief from the pain within twenty minutes, another intramuscular injection of one-fourth grain should be given. It becomes necessary in some instances to use as much as two grains hypodermically within eight to twelve hours, where the pain is intense. Frequently extreme nausea and vomiting follow these large doses. Probably the retching and straining associated with this complication adds somewhat to the risk of circulatory collapse. There is no other drug, however, which will replace morphin in these cases, and since the suffering is so intense there is no justification for withholding it. One should bear in mind that these people never become addicts. The drug, while used in large amounts, is usually not necessary after the first forty-eight hours, and as the pain disappears no desire for the drug remains. After the first serious period, the heart apparently accommodates itself to the restored circulation, and in some manner the pain subsides. Only mild sedative therapy is needed during the next few weeks, in the average case. Such products as phenolbarbitol and other barbituric acid derivatives may be used in moderation. Frequently bromids are sufficient. A warning should be given against the prolonged use of any barbituric acid derivative. These drugs are frequently associated with a physicial and mental depression. The use of digitalis is a question which frequently arises in the minds of many practitioners. This drug should not be used unless there are signs of congestive heart failure present, such as beginning edema of the lungs or extremities, enlargement of the liver, rapid heart action (ventricular rate over 100), the presence of auricular fibrillation, dyspnea, and so forth. Most cases of acute coronary thrombosis are associated with various types of heart block, and presumably digitalis should not be used, particularly with an associated auricularventricular block. Nevertheless, when the signs of congestive heart failure supervene, one should probably fall back upon moderate doses of the drug. Quinidin sulphate should be used in a very few cases where paroxysms of ventricular tachycardia occur. Its use should not be encouraged, until large groups of controlled cases have been reported. Acute coronary thrombosis is a most serious cardiac condition, from which recovery is always doubtful. Absolute rest in bed for several weeks, at least, should be enforced until it may be assumed that the area of infarction has become well healed, and collateral circulation has been established. The convalescence should be prolonged, and there should be freedom from worry and physical strain as much as possible.

One class of drugs offers some aid in establishing a more efficient coronary circulation—the xanthine products. Askanazy was the first to recommend these drugs in the treatment of cardiac pain. Musser, Breuer, Theohardi, Gilbert and Kerr, and Dock have all more or less confirmed his work, while Smith, Mille and Graber were not so positive as to an increased coronary blood flow. Other pharmacologists have affirmed, denied, and affirmed again, the increased coronary flow with the use of these drugs.

My experience has been satisfactory with the use of theobromin, and theophylin di-ethylenamin (euphyllin) in 140 cases of coronary artery disease which have been associated with pain. Certain drugs used in angina pectoris and arteriosclerosis are apparently of little or no value in acute coronary thrombosis. These include the iodids and nitrites. The nitrites generally give instant and marked relief in angina pectoris, but they are rarely of value in relieving the pain of coronary thrombosis.

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Harry Spiro, M. D., and William W. Newman, M. D. (450 Sutter Street, San Francisco). As the prevention of a disease is always the first aim of a physician in its treatment, so in discussing the treatment of acute coronary artery occlusion the problem of its prevention merits primary consideration. Is, then, acute coronary artery occlusion preventable? We believe that in a fair percentage of cases it may be. Acute coronary artery occlusion is an episode, too frequently the terminal episode, in coronary artery disease, be that disease of arteriosclerotic, luetic, or rheumatic origin. The prevention of acute coronary artery occlusion begins properly with adequate treatment of this underlying etiologic factor, if possible before the coronary arteries become involved. Later, when and if coronary artery disease becomes manifest, then prevention of acute coronary artery occlusion deals with the proper management of the resulting cardiac insufficiency.

This management concerns itself principally in relieving the heart of excessive work, for while it is quite true that the great majority of coronary artery occlusions occur while the patient is at rest, still it is the further damage done to the coronary arteries during exercise and especially unusual and strenuous exercise, that puts the vessel walls in such a condition that a thrombus can form on them when the blood stream is slowed during rest. Therefore, since every patient with coronary artery disease is a possible candidate for an acute coronary artery occlusion the physician should warn him against excesses of exertion whether these be of play or of work. Just because the patient has never thought anything of pitching in and "lending a hand" about his office or shop is no excuse for his continuing to do so after he has reached the cardiovascular age (if we may use the term) of fifty to fifty-five years. Nor should strenuous sports like tennis or mountain climbing continue to be indulged in, even though the cardiac reserve seems excellent. Of course, the more extensive the myocardial involvement the more stringent these restrictions must be, a fair working rule being that a patient of this class should never exert himself to the extent of causing shortness of breath, substernal distress, or unusual fatigue. Quiet after meals, from one-half hour to one hour, should always be enjoined. A little discretion at this stage may add years to a life that might otherwise be terminated by the precipitation of an acute coronary artery occlusion.

Patients having that manifestation of coronary artery disease called angina pectoris are most prone to suffer an acute coronary artery occlusion, and such an accident is often in our experience preceded for some days, or even weeks, by an increase in the frequency of attacks of angina pectoris and by the ease with which such attacks are provoked. It may be wise, therefore, to urge a patient with *increasingly frequent* attacks of angina pectoris to markedly decrease his activities for a time; "activities" include mental and physical and the partaking of food. The determined physician will urge his patient with *increasingly frequent* attacks of angina pectoris not to fight the attacks but to give in to them, to rest, and to rest until the frequency of the attacks again subsides.

It is not at all infrequent to see, at autopsies, hearts in which the coronaries are nearly obliterated, hearts which show innumerable scars in the myocardium, the result of occlusions of various smaller branches of a coronary artery, showing that the patient has survived numerous attacks of coronary artery occlusion, and evidence that if a patient gets a small or a slow-forming coronary artery occlusion, if he slows down sufficiently there is at least a chance for the damage to result in a complete closing of the vessel with no more serious symptoms than those of a more than usually severe attack of angina pectoris.

It is surprising how difficult it is to get a patient who exhibits this serious symptom of increase in the frequency of attacks to take care of himself. It is surprising how difficult it is for the physician to realize that a patient who has gone on for years with attacks of angina pectoris is not going to continue to go on if he is having this preliminary symptom of acute coronary artery occlusion, namely, the increasing frequency of attacks of angina pectoris. So, by remembering the likelihood of an attack of acute coronary artery occlusion in angina pectoris, and by being determined when these anginal attacks become markedly more frequent to keep the patient quiet, the onset of a fatal attack may possibly be prevented. So much for prevention.

The treatment of an actual occlusion depends on the severity of the attack, which may vary from a scarcely noticeable indisposition to one resulting in almost instant death. Between these two extremes lie a large percentage of cases whose chances of recovery depend on the care with which they are handled. It is well to remember that in the great majority of cases one cannot tell at the onset of the attack what the outcome is likely to be, and that the fate of the patient may be decided by the physician's action during the first few hours of the attack. So it behooves the physician to have some plan of action which he intends to follow.

It is our habit, if we are called to treat a patient who probably has an attack of acute coronary artery occlusion, immediately to give the patient 1/100th grain of nitroglycerin, irrespective of the previous doses of nitroglycerin he may have taken. If in ten minutes there is no relief from pain, we feel more certain that this is not ordinary angina and give him one-fourth grain morphin by hypodermic. If, on the other hand, the nitroglycerin has given him some relief, then we prefer to use a hypodermic injection of sodium luminal. If this happens to be a very, very mild attack of acute coronary artery occlusion, the patient may be lucky enough to go on to an uneventful recovery with no more treatment except a week or so of rest. We believe that any attempt at this stage to be too active in medication, to give laxatives, enemas, etc., is pernicious. Furthermore, the less one puts in the patient's stomach the better off is the patient. If, however, the attack gives one the impression of being moderately severe and if the patient is well past middle age, has arteriosclerosis, hypertension, and has had attacks of angina pectoris, then we adopt the attitude that we must secure as near absolute rest as possible for him. Morphin sulphate is the best medium for giving rest, and we give it freely—one-fourth grain by hypodermic; if no relief from pain in one-half hour, repeat one-fourth grain; if no relief from pain in another half-hour, another one-fourth grain, occasionally going as high as one grain of morphin sulphate in the course of two to four hours. In order to allay pain and anxiety with its resultant restlessness, it is often necessary to keep the patient in a stuporous condition for at least the first twenty-four hours. During these hours we are well satisfied if we can keep the patient quiet and free from distress.

We make no attempt to increase a patient's blood pressure if it has dropped, which it most often does. We hesitate as long as possible before using any of the usual cardiac stimulants. By "as long as possible" we mean that if the patient appears to be holding up and does not appear to be in imminent danger of dying, we use no stronger stimulants than an occasional teaspoonful or two of whisky. If the pulse maintains its size or volume, we depend upon the opiate. On the other hand, if the pulse fades out, gets strong again, again fades out and again becomes strong, fluctuating thus repeatedly, we believe this symptom calls for the use of a cardiac stimulant. We then prefer caffein, either intravenously or subcutaneously, three and one-half to seven and one-half grains, repeated every fifteen minutes to one-half hour if necessary, for five or six doses. On the other hand a pulse which is merely fast, that is, from 100 to 120, but the volume good, does not spell more than expected danger in this stage of acute coronary artery occlusion, and for this alone we attempt no medication.

If the complication of edema of the lungs threatens we then give five to fifteen minims of adrenalin by hypodermic very, very slowly. The pulse and the emotional reaction must be most carefully watched, because adrenalin sometimes causes unexpected agitation of the patient and also at times a tachycardia. If the edema of the lungs seems rapidly to lessen, which it does if the adrenalin is successful, well and good; the adrenalin may then be repeated in one-half hour to one hour if necessary. We prefer to go to an extreme in avoiding the use of adrenalin or any other stimulant unless of course there is no choice.

Digitalis must be used, if at all with much circumspection, and in these first few hours if the pulse is regular, whether it be fast or slow, large or small, we withhold digitalis since the disturbances in conduction and rhythm which it may initiate if given in doses large enough to be rapidly effective may be an added hazard greater than the possible benefit which might be obtained from its use. If on the other hand we are certain that auricular fibrillation is present, we attempt to obtain full digitalization by the intravenous or intramuscular route within twenty-four hours. If, however, in the first few hours after an acute coronary artery occlusion the pulse is irregular in volume as well as in rhythm, and even though we are unable to make an exact diagnosis of the type of irregularity, moderate doses of digitalis may be tried. We then give thirty minims of digalen subcutaneously and repeat it in four to six hours, but we make no attempt to force the digitalis, depending rather upon the sedative and oxygen to keep the patient going until the circulatory system has had the opportunity of adjusting itself to the insult it had received. We do not use atropin, as it tends to speed up the heart, and this is just the opposite effect to that we wish. We do not believe it prevents or cures pulmonary edema. At times large doses of morphin and ordinary doses of digitalis seem to produce violent vomiting spells; it has seemed to us that occasional doses of sodium luminal by hypodermic control this form of vomiting. Furthermore, sodium luminal assists the opiate in quieting the patient. It is not unusual for a patient who has been on morphin to develop Cheyne-Stokes respiration purely as the result of morphin; so if Cheyne-Stokes respiration develops we change the sedative we are using. Unless there is a tendency for the blood pressure to increase markedly during the early hours of the attack, which it very, very rarely does, there is no call for the use of nitrites. If the blood pressure rises to 175 or over, nitroglycerin can be given and may be repeated.

And now what seems to us equally important after the proper use of morphin, is the use of oxygen. As soon as the diagnosis is determined upon and irrespective of the apparent and great danger of the attack, if the financial status of the patient will warrant, we order a Roth-Barach type oxygen apparatus to the house. We agree with most clinicians who believe the ordinary tube in the nose, or other open methods of oxygen administration, are futile. With the Barach or similar type of oxygen apparatus the supply of oxygen can be properly regulated, the oxygen is cooled, and the patient is usually gratified with its use. A tent accompanying the apparatus is large enough for the patient to be moved around in. We do not wait for the symptom of cyanosis to appear; we do not wait for symptoms of respiratory distress, but as soon as possible after the apparatus arrives in the house the administration of oxygen is commenced. With the proper administration of oxygen the effect of the opiate is aided because the patient's effort to oxygenate his blood is relieved and he willingly becomes quieter. If one waits until actual respiratory distress is noted not only by the doctor but also by the patient, then one has a panicky struggling patient to cope with and harm may be produced by his wild struggles for breath. So keep up the oxygen hour after hour. One is soon convinced of how much less medication is needed after oxygen is started.

The major object in this very acute stage of acute coronary occlusion is to keep the patient quiet by keeping him comfortable. Never mind about food; never mind about the patient's bowels; the bladder may be catheterized if necessary. If a drink is needed it can be given in small amounts and not cold. We plan to keep up the oxygen for the next three days almost constantly and reduce but do not discontinue the use of opiates unless the patient is constantly nauseated or vomits, in which case we try the use of a barbital preparation either combined or not combined with one of the products of opium other than morphin. One does not dare let the patient use a commode, and one dare not let him strain at stool. If he is fairly heavy the hauling and pulling the nurse inflicts upon him to place him in proper position for a bowel movement on a bed pan may be harmful, so if necessary the lower bowel may be washed out with a return flow tube. Very soft food may be given but is not forced upon the patient. He is gently turned from side to side every hour or two while in the oxygen tent and because of a possibility of a venous thrombosis a very gentle massage of the extremities is instituted. The patient is urged to pass the urine instead of using the catheter, but if necessary the catheter is used.

Careful experimentation in the reduction of the doses of caffein or digitalis, if it has been given, should now be tried. It may be well even to stop their use for a day at a time. During these days and later, a careful watch must be kept for the appearance of the type of irregularity of the heart to which in ordinary patients we pay little attention, namely, extra systoles, since under these circumstances they may herald a more serious form of arrhythmia.

When either the auricular or ventricular type of extra systoles are discovered, or if ventricular tachycardia commences, we immediately stop or markedly reduce the dosage of digitalis if digitalis has been given, and start the use of quinidin sulphate, three to four grains three to four times in twenty-four hours. At times we have pushed this dose slightly higher, and we take frequent electrocardiograms during this period.

We will not use quinidin for auricular fibrillation in acute coronary artery occlusion. Toward the end of this four-day period we still continue the use of sedatives, but the use of oxygen is moderately decreased.

If we have been successful the patient has now been tided over the most acute and most dangerous period of his illness and his chances for an ultimate recovery depend on the care with which symptoms of congestive failure are treated or if possible anticipated. Even though progress is apparently uninterrupted, six weeks is usually the minimum period of absolute bed rest that should be enjoined, and thereafter return to moderate activities must be slowly and cautiously tried. "Take no chances" must ever be the watchword, and the only possible penalty for over-caution is perhaps a few weeks spent unnecessarily in bed, while the reward of patience is often a most gratifying return to years of reasonably active life.

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Eugene S. Kilgore, M. D. (490 Post Street, San Francisco).—Failure to recognize the disease is still the greatest obstacle to good treatment. Until the laity is better informed many patients will continue to receive home remedies for it under the guise of "ptomaine poisoning," "acute indigestion," "neuritis" of the arm, etc. Physicians have been taught to look for the "typical" syndrome, including pain of anginal quality and distribution unprovoked by effort and resistant to nitrites, circulatory collapse, fever, leukocytosis, often pericardial friction, and the supposedly all-revealing electrocardiograms. They should now learn that many cases, perhaps the majority, have only atypical and often misleading symptoms.

The problem of prophylaxis is the difficult one of arteriosclerosis—the choice of better ancestors, the avoidance of the overstrenuous life, overeating, high blood sugar, etc. Syphilis plays a minor rôle in etiology; rheumatism and other infections seem negligible. Varying degrees of rest may be highly desirable for the patient with coronary sclerosis; but, since thrombosis so often occurs during complete rest—it even has a predilection for sleep—it is hard to feel much optimism about restriction of activity as a direct preventive of acute occlusion. We are not yet able to speak with confidence regarding diet or drugs to minimize the tendency to thrombosis in sclerosed vessels.

Absolute bed rest is imperative in the treatment of acute occlusion. However mild the initial symptoms, however favorable appears the clinical progress, it should continue long enough to permit firm healing in an infarct of unknown size and strategic importance. For a large area of softening, one that is easy to stretch or rupture, may exist with but meager and transitory symptoms. Four to six weeks should be considered a minimum, and only after that should the resumption of activity be regulated according to the apparent condition of the patient.

If necessary, morphin may be used freely to relieve pain, fifteen milligrams repeated several times if need be. A little atropin may counteract its occasional nauseating effect. Oxygen, administered in an efficient tent, is useful in relieving cyanosis and dyspnea. Rizer's observation that it also often relieves the pain suggests that an oxygen-rich atmosphere results in better oxidation in the infarcted area and so may diminish the amount of tissue necrosis. It is therefore a desirable adjuvant in the first few days, whatever the symptoms.

Stimulation should be avoided unless positively needed to insure adequate flow in the brain, lungs and coronaries. Any additional force of the heartbeat merely augments the danger of rupture or cardiac aneurism. Digitalis may be used to advantage in the occasional case with fibrillation of the atrium, and at times in congestive failure without fibrillation; but in general its use in this condition is ill supported by theory and disappointing in practice. It usually increases myocardial irritability and we must therefore suspect that it may favor the inception of the all too frequent, suddenly fatal, ventricular fibrillation. Its depression of conductivity also would be decidedly unwelcome in the not infrequent case where there is injury to the Purkinje system. Caffein probably has the advantage of dilating the coronaries, and is preferable as a stimulant, when this is required.

Theobromin and related drugs often relieve the pain of partial coronary closure, probably by dilating the coronaries and increasing flow in them. This is an effect highly desirable in the first few days after an infarction has occurred, when the marginal tissue is struggling for life, when organization is beginning, and when the slowed blood flow may permit extension of the thrombus. In the first ten days, therefore, I prescribe routinely 0.6 theobromin sodium salicylate every eight hours.

It is current practice to treat disorders of heart-beat mechanism *after* they arise—with digitalis, quinidin, etc. Large doses of quinidin at times have stopped the extremely hazardous ventricular tachycardia. But ventricular fibrillation does not wait to be treated, and there is little doubt that it causes most of the sudden deaths in this disease, and that it often occurs without premonitary disturbances of rhythm. Practically, then, there is no treatment for this, *the* imminent danger, unless it can be preventive. Potassium for this purpose is still sub judice; the dosage probably required seems too great for long continuance, and its action is sometimes paradoxical. Quinidin in small dosage often prevents the recurrence of fibrillation in the atrium; and analogy as well as recent animal experiments give strong support to the conception of a similar protective effect in the ventricle. I therefore use it routinely during the first two months—0.2 gram every eight hours. This is done in full recognition of the dangers of quinidin therapy. They are real but small, and have been grossly exaggerated in the mind of the profession at large. Most of the fatalities charged to this drug have been due to emboli from a fibrillating atrium, dislodged supposedly by the restoration of contractions—a charge of doubtful validity in many instances and not applicable at all in most cases of coronary occlusion. Quinidin apparently has worked badly in a few cases where there was injury to the conducting system, but in considerably larger doses. In short, in the light of present knowledge, I accept what may be a very small danger in the reasonable hope of materially lessening a very large one.

These general rules, of course, are to be applied flexibly, in accordance with the conditions in the individual case. There are times when the stomach must be relieved from all drug or food intake (meals should always be small and more frequent), when morphin must be replaced by some other sedative or when none is needed, when venesection is beneficial, and so forth. Nourishment is important for healing, especially an adequate level of blood sugar; and if the stomach is not receptive, glucose by other channels is useful. If given intravenously the doses should be small and frequently repeated; a three or four per cent solution may be introduced under the skin. Among the vitamins, C appears to be important in favoring the development of new capillaries; and thus, theoretically, a liberal supply (orange juice, etc.) may accelerate the repair of damaged myocardium.

Myocardial Failure Due to Trichinosis.—The following comments are by Doctors Carl V. Weller, Ann Arbor, Mich., and Milton Shaw, Lansing, Mich.: In 1865 Kornblum noted the occurrence of a marked parenchymatous degeneration in the heart of a patient dying of trichinosis. He found millions of trichinae in the skeletal muscle, but none in the heart muscle. In the latter there was probably an active defensive process characterized by a large number of eosinophils. With one exception (Frothingham in 1906 described what he believed to be an embryo in heart muscle) there have been no reports of trichinae found in heart muscle fibers. This led to the view that there was a toxic substance found in the body which was carried through the blood stream. We have studied a patient brought to the St. Lawrence Hospital. His illness, which had lasted six weeks, commenced with diarrhea; he had fever, night sweats, and muscle pains. On admission he was nearly moribund. He had dyspnea, cyanosis, edema, and feeble pulse with a rate of 136. He died before anything could be done. Necropsy showed an enormous number of trichinae in the stage of encystment in the skeletal muscles. The heart muscle showed no embryos but a marked diffuse myocarditis, both a focal and diffuse type of the process. Staining showed a large number of eosinophils. Studies by Graham on rats showed that from eight to fourteen days after infested meat has been eaten, embryos can be demonstrated in the heart muscle. The fact that they are found in every situation gave rise to the belief that they reach the myocardium but are promptly disposed of. Weiss made an elaborate clinical study of the disease and called attention to the edema phenomena that occurred. Facial edema in the third week was mostly toxic from the infected muscles. In the fourth or fifth week it was largely inflammatory. In the sixth week the edema appeared in the dependent portions of the body as a result of the failing myocardium. Studies show that fatal cases are not common. There are many sublethal cases and also subclinical cases. It seems to be a curious condition if the heart disposes of the parasites. There is an analogy to syphilis. The spirochetes can be demonstrated in the aorta, but it is difficult to demonstrates them in the myocardium. It seems as if a defensive mechanism might be supposed which disposes of the parasites.—*Journal of the American Medical Association.*

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EDITORIALS*

"FINAL REPORT" OF THE COMMITTEE ON THE COSTS OF MEDICAL CARE†

The Final Report of the Committee on the Costs of Medical Care.—On May 17, 1927, the Committee on the Costs of Medical Care may be said to have gotten its real start. The committee of fifty, to carry through its five-year plan of fact-finding studies, has found it necessary to expend almost one million dollars, supplied largely by eight American foundations.

We quote from a letter of date of November 12, 1932, received by the editor of CALIFORNIA AND WESTERN MEDICINE:

"In accordance with your recent telegraphic request, we are sending herewith an advance proof of the Final Report of the Committee on the Costs of Medical Care.

"We appreciate your willingness to keep the contents of the report confidential until November 30."

Because the December number of CALIFORNIA AND WESTERN MEDICINE will not be in the mails until after November 30, the following brief comments are printed. The final report of the Committee on the Costs of Medical Care, for which an expectant medical profession has been patiently waiting for the last five years, at last is ready for publicity. The discussion thereon may last for years. Whether these fact-finding studies will bring about a radical change in medical practice is a question. Time will show.

The report of the committee was not unanimous. A minority report is signed by eight physicians. Four other members of the committee likewise sent in dissenting opinions.

The physicians and dentists who had membership in the committee included the following. (The names of those who signed the minority report are printed in italics):

Lewellys F. Barker, M. D., Baltimore, Maryland.
Walter P. Bowers, M. D., Clinton, Massachusetts.
A. C. Christie, M. D., Washington, D. C.
William Darrach, M. D., D. D. S., New York City.
George E. Follansbee, M. D., Cleveland, Ohio.
M. L. Harris, M. D., Chicago, Illinois.
J. Shelton Horsley, M. D., Richmond, Virginia.
Kirby S. Howlett, M. D., Franklin, Tennessee.
Arthur C. Morgan, M. D., Philadelphia, Pennsylvania.
Herbert E. Phillips, D. D. S., Chicago, Illinois.
Stewart R. Roberts, M. D., Atlanta, Georgia.
C. E. Rudolph, D. D. S., Minneapolis, Minnesota.
Richard M. Smith, M. D., Boston, Massachusetts.
Walter R. Steiner, M. D., Hartford, Connecticut.
N. B. Van Etten, M. D., New York City.
Robert Wilson, M. D., Charleston, South Carolina.
Rollin T. Woodyatt, M. D., Chicago, Illinois.
Olin West, M. D., Chicago, Illinois.
Ray Lyman Wilbur, M. D., Palo Alto, California.

The minority report which was signed by Doctors A. C. Christie, George E. Follansbee, M. L. Harris, Kirby S. Howlett, A. C. Morgan, Olin West, Robert Wilson, and N. B. Van Etten includes the names of colleagues with long careers of service in county, state, and national medical associations. They are not only members of the medical profession who have had extensive experience in private practice, but they are at the same time medical men who, because of their interest, aptitude, and altruistic service for organized medicine and the public health, may be pointed to as experts on matters having to do with past, present, and future trends in medical practice. Their minority report should be gauged, therefore, not so much because it expresses the viewpoint of eight as against that of thirty-six, but as having special worth because it represents a vast background of practical experience and expert knowledge on the subjects discussed in the two reports.

* * *

Portions of the Final Report Here Considered. In these present comments on this report it is our purpose to submit excerpts as follows:

1. Some quotations from the "Introduction," which is written by our fellow Californian, Dr. Ray Lyman Wilbur, chairman of the committee, who is of those in favor of the recommendations in the majority report; and who to a certain extent probably speaks on behalf of the majority.

2. The "recommendations" of the committee (that is, the digest of the "majority report") which

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* Editorials on subjects of scientific and clinical interest, contributed by members of the California Medical Association, are printed in the Editorial Comments column, which follows.

† Publication 28: "The Final Report of the Committee on the Costs of Medical Care" may be purchased from The University of Chicago Press, Chicago, Illinois.

is printed in parallel column to the "recommendations" contained in the "minority report."

3. Some excerpts from the discussion made by the minority report members.

It is hoped that these quotations will permit members of the California Medical Association to visualize somewhat the findings and viewpoints of the majority and minority groups of the Committee on the Costs of Medical Care, as given in the final report of that committee.

* * *

Doctor Wilbur's Introduction to Publication 28—The Final Report of the Committee on the Costs of Medical Care.—From the introduction by Chairman Wilbur the following excerpts are taken:

INTRODUCTION

"Pain, sickness, and bereavement have shadowed mankind throughout the ages; today there is a vast amount of unnecessary sickness and many thousands of unnecessary deaths. . . .

"Yet medical science has made marvelous advances during the last fifty years. Following the work of Pasteur, Lister, and Koch remarkable progress has been made in controlling the communicable diseases, and the average length of life during this period has been greatly extended. . . . We know how to do many things which we fail to do or do in an incomplete and often most unsatisfactory manner. As a result of our failure to utilize most fully the results of scientific research, the people are not getting the service which they need—first, because in many cases its cost is beyond their reach, and second, because in many parts of the country it is not available. The costs of medical care have been the subject of much complaint. Furthermore, the various practitioners of medicine are being placed in an increasingly difficult position—in respect to income and facilities with which to work. The report which follows presents many phases of these various problems.

"Conscious of this unsatisfactory situation, some fifteen leaders in the fields of medicine, public health, and the social sciences came together for a conference in Washington on April 1, 1926. Various aspects of the general problem were discussed, and the organization of a committee to carry on a program of research was suggested. This group, however, was not at once willing to commit itself to such a plan. Further study was considered necessary. A Committee of Five was appointed, therefore, to investigate the possible need for a new committee. Some seventy-five prominent citizens, both professional and lay, were consulted by mail; the response was almost unanimous in favor of creating a new organization to carry on an extensive program of research in the various economic aspects of medical care. Accordingly, at a conference in Washington, D. C., May 17, 1927 (at the time of the annual meeting of the American Medical Association), which was attended by some sixty representative physicians, health officers, social scientists and representatives of the public, the nucleus of the present Committee on the Costs of Medical Care was created, and an executive committee was appointed. A director of study was immediately employed to propose a program of research for the consideration of the executive committee and to engage the necessary personnel. After considerable study, a five-year program of research, consisting of seventeen studies, was adopted by the executive committee on February 13, 1928. Important additions have since then been made to this list.

"The committee, for most of the five-year period, has consisted of fifty members, representing the fields of private practice, public health, medical institutions and special interests, the social sciences, and the general public. The committee has met regularly twice a year; and as researches have been completed, it has studied the data thus made available. . . .

"The committee has been fortunate in securing an unusually well trained research staff; statistical assistants, secretaries, stenographers and clerks also have shown a fine devotion to their work. All have labored diligently in the production of twenty-six reports on fact-finding studies. . . .

"The committee has maintained, during the latter part of the five-year period, a small public relations staff, believing that the results of its researches would not be of greatest use unless they were brought to the attention of the various professions and agencies interested and of the general public. . . .

"The work of the committee would not have been possible had it not been for the generous support of eight foundations. They have remained in the background, but as the work of the committee has developed, they have been most helpful in providing the necessary funds. . . .

"The committee is finishing its work on time. It will have published by the end of the present year twenty-six reports on studies.‡ . . .

"With the present volume, the committee presents its report of recommendations. It has labored during the last two or three years to discover the implications of the facts revealed by the various studies. The recommendations in the present report are based upon the data revealed in the twenty-six major reports on fact-finding studies, in its series of miscellaneous contributions, in the reports of collaborating agencies, and in a large number of documents issued by other organizations. . . .

"Early in the committee's work it was expected that there would be one or more minority reports, and the committee makes no apology for the fact that the forty-eight members composing the committee at the close of its work have not reached a unanimous agreement on a series of recommendations. . . . It should be clearly pointed out that the majority group is responsible only for the contents of the basic report, and the minority group is responsible only for the contents of its report. The basic report together with the minority report and the personal statements are all published in the present volume. . . .

"The quality of medical care is an index of a civilization. . . . Today in American civilization, health occupies a high place among accepted social values. . . .

"Our physical and mental health is perhaps the nation's greatest asset. It behooves each community, therefore, to consider what plan will most effectively promote the health of its citizens. To each and every community in the United States which desires to provide better medical care and increased health for all of its people, the committee offers these recommendations. The report affords for the first time a scientific basis on which the people of every locality can attack the perplexing problem of providing adequate medical care for all persons at costs within their means. It is hoped that the report may thus aid materially in bringing greater health, efficiency, and happiness to all the people. RAY LYMAN WILBUR, *Chairman.*"

* * *

Recommendations of the Majority Group (Thirty-Six Members) and Minority Group (Eight Members).—The majority and minority reports as given in the preliminary publication released on November 30 are here printed in parallel columns in order to permit comparisons by readers of CALIFORNIA AND WESTERN MEDICINE. Readers of this journal can ask themselves wherein they agree or disagree with either report.

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‡ Twenty-three of these have been issued prior to the publication of this report; the balance are scheduled for publication before January 1, 1933.

RECOMMENDATIONS OF THE COMMITTEE*

I

The committee recommends that medical service, both preventive and therapeutic, should be furnished largely by organized groups of physicians, dentists, nurses, pharmacists, and other associated personnel. Such groups should be organized, preferably around a hospital, for rendering complete home, office, and hospital care. The form of organization should encourage the maintenance of high standards and the development or preservation of a personal relation between patient and physician.

II

The committee recommends the extension of all basic public health services—whether provided by governmental or nongovernmental agencies—so that they will be available to the entire population according to its needs. This extension requires primarily increased financial support for official health departments and full-time trained health officers and members of their staffs whose tenure is dependent only upon professional and administrative competence.

III

The committee recommends that the costs of medical care be placed on a group payment basis, through the use of insurance, through the use of taxation, or through the use of both of these methods. This is not meant to preclude the continuation of medical service provided on an individual fee basis for those who prefer the present method. Cash benefits, *i. e.*, compensation for wage-loss due to illness, if and when provided, should be separate and distinct from medical services.

IV

The committee recommends that the study, evaluation, and coördination of medical service be considered important functions for every state and local community, that agencies be formed to exercise these functions, and that the coördination of rural with urban services receive special attention.

V

The committee makes the following recommendations in the field of professional education: (*a*)That the training of physicians give increasing emphasis to the teaching of health and the prevention of disease; that more effective efforts be made to provide trained health officers; that the social aspects of medical practice be given greater attention; that specialties be restricted to those specially qualified; and that postgraduate educational opportunities be increased; (*b*) that dental students be given a broader educational background; (*c*) that pharmaceutical education place more stress on the pharmacist's responsibilities and opportunities for public service; (*d*) that nursing education be thoroughly remolded to provide well educated and well qualified registered nurses; (*e*) that less thoroughly trained but competent nursing aides and attendants be provided; (*f*) that adequate training for nurse-midwives be provided; and (*g*) that opportunities be offered for the systematic training of hospital and clinic administrators.

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* This is the majority report.—Editor.

RECOMMENDATIONS OF THE MINORITY GROUP

I

The minority recommends that government competition in the practice of medicine be discontinued and that its activities be restricted (a) to the care of the indigent and of those patients with diseases which can be cared for only in governmental institutions; (*b*) to the promotion of public health; (*c*) to the support of the medical departments of the Army and Navy, Coast and Geodetic Survey, and other government services which cannot because of their nature or location be served by the general medical profession; and (*d*) to the care of veterans suffering from *bona fide* service-connected disabilities and diseases, except in the case of tuberculosis and nervous and mental diseases.

II

The minority recommends that government care of the indigent be expanded with the ultimate object of relieving the medical profession of this burden.

III

The minority joins with the committee in recommending that the study, evaluation, and coördination of medical service be considered important functions for every state and local community, that agencies be formed to exercise these functions, and that the coördination of rural with urban services receive special attention.

IV

The minority recommends that united attempts be made to restore the general practitioner to the central place in medical practice.

V

The minority recommends that the corporate practice of medicine, financed through intermediary agencies, be vigorously and persistently opposed as being economically wasteful, inimical to a continued and sustained high quality of medical care, or unfair exploitation of the medical profession.

VI

The minority recommends that methods be given careful trial which can rightly be fitted into our present institutions and agencies without interfering with the fundamentals of medical practice.

VII

The minority recommends the development by state or county medical societies of plans for medical care.

The Minority Report by A. C. Christie, George E. Follansbee, M. L. Harris, Kirby S. Howlett, A. C. Morgan, Olin West, Robert Wilson, and N. B. Van Etten.—The minority report by the above physicians covers some twenty-two pages of the advance sheets of Publication 28, which is the volume which will contain the final reports of the Committee on the Costs of Medical Care. From that minority report the following quotations are made:

A MINORITY REPORT BY A. C. CHRISTIE, GEORGE E. FOLLANSBEE, M. L. HARRIS, KIRBY S. HOWLETT, A. C. MORGAN, OLIN WEST, ROBERT WILSON, AND N. B. VAN ETTEN.

"The minority group of the committee whose names are subscribed to this report are in accord with the majority in many of their conclusions and recommendations. We find ourselves, however, in conflict with what we conceive to be the general tone or trend of the report and in certain instances in sharp disagreement with the recommendations for future action. We have also certain constructive suggestions to make which have been omitted or the importance of which has not been sufficiently emphasized in the report of the majority. We regret the necessity for a minority report, but we are convinced that we would fail in our duty both to the public and to the medical profession if we did not point out as forcibly as possible what we conceive to be unwise recommendations or omissions in the majority report of this committee.

"We are in full and hearty accord with the majority in its recommendations for 'The Strengthening of Public Health Services' and 'Basic Educational Improvements,' and we agree to some extent with the pronouncements of the committee in respect to coördination of medical services. . . .

"Some of the recommendations for coördination of medical services and for basic improvements in medical education are immediately practicable and will undoubtedly result in reductions in the costs of medical care. They are in line with the general progress of medicine and are based on sound experience. Many educational improvements are under way through the initiative of the medical and dental professions and college authorities. . . .

"We are in sympathy with the recommendations of the majority which deal with the better training of specialists and their proper control. This is another matter in which the medical profession has taken the initiative. . . .

"We repeat that this minority is heartily in accord with the majority recommendations with respect to public health and progress in medical education.

"With regard to the majority Recommendations 1 and 3, dealing with 'Organization of Medical Services' and 'Group Payment for Medical Service,' the convictions of this minority are so divergent from those of the majority that they must be discussed in detail.

I. ORGANIZATION OF MEDICAL SERVICES

"The minority group recognizes the desirability of better correlation of the activities of the professions and it is in agreement with the majority upon some of the suggestions under the above heading. There is nothing, however, in the facts elicited by the committee nor in the general experience of the medical professions to lead us to believe that 'organization' can accomplish what is claimed for it in the majority report. On the contrary, it seems clear to us that many of the methods advocated will give rise to new and greater evils in the attempt to cure existing ones. Our views are set forth below under each heading of the majority report.

"1-A. ***Community Medical Centers.***—The emphasis placed upon this plan which is called 'the committee's most fundamental specific proposal' we believe to be far beyond any possibility of its ultimate value. It is admittedly an idealistic plan based almost solely upon theory. There is nothing in experience to show that it is a workable scheme or that it would not contain evils of its own which would be worse than those it is supposed to alleviate. Above all there is no evidence to prove that it would accomplish what ought to be the first object of this committee, the lessening of the costs of medical care. The plan is suggestive of the great mergers in industry, the main medical center being in the nature of the parent holding company governing the activities of subsidiaries and branches. The idea that size and power are synonymous with excellence and efficiency has received some severe blows during the current economic depression, and opinions concerning it are undergoing revision.

"The medical center plan is the adoption by medicine of the technique of big business, that is, mass production. It seems almost impossible for those who are not engaged in the practice of medicine to understand that the profession of medicine is a personal service and cannot adopt mass production methods without changing its character. It is always the individual patient who requires medical care, not diseases or economic classes or groups. The neglect of this principle in other fields has brought serious evils that are now being corrected only with great difficulty. . . .

"We look upon this plan as far-fetched and visionary. It has no practical relationship to the question the committee has set itself to solve. Placed as it is at the very beginning of the committee's recommendations it must create a doubt of the committee's grasp of the problem to which it has addressed itself. It seems to us an illustration of what is almost an obsession with many people, namely, that 'organization' can cure most, if not all, human ills.

"1-B. ***Industrial Medical Service.***—It is our opinion that this question, which is of great importance, has not been adequately nor fairly dealt with in the majority report. The publications of the committee (Numbers 5, 18, and 20) which describe existing industrial medical services fail, in our opinion, to give a true picture of conditions as they exist throughout the country. For each of these favorable reports many instances could be cited of industrial medical services where the results have been exceedingly unfavorable. . . .

"It is the belief of the minority group that the majority report has presented this entire question in a distorted manner. The evils of contract practice are widespread and pernicious. The studies published by the committee show only the favorable aspects. They were selected because they were considered the most favorable examples of this type of practice in the United States. For each of these plans a score of the opposite kind can be found. The evils are inherent in the system although they may be minimized when a high-grade personnel is found either among employees or medical group, or both.

"Any method of furnishing medical care which degrades the medical profession through unfair compensation, or which breaks down its ethical standards or furnishes inferior medical service, must be condemned. It is hardly open to doubt that contract practice, as usually carried on, is such a method. . . .

"1-D. ***Utilization of Subsidiary Personnel.***—This recommendation is nothing new in medical practice. It has already developed along many lines through the initiative of the medical, dental, and nursing professions. We need cite only the widespread employment of technicians in clinical laboratories, the use of dental technicians and hygienists both for laboratory and clinical work, and the extension of nursing service. . . . We wish to add a word of caution relative to the dangers involved in permitting nonmedical technicians to assume the duties which only physicians should undertake. There is constant temptation in many fields to permit technicians to perform duties entirely unjustified by their knowledge and training. Deterioration of service invariably results from such practice.

"1-E. *Private Group Clinics.*—We believe the establishment of such clinics is in line of progress when they are a natural outgrowth of local conditions. It is the belief of the minority group that the majority report gives far too much importance to the value of this type of medical practice. That it has accomplished generally or can ever accomplish what is there claimed for it is open to grave doubt. There is nothing in our own experience nor have we been able to find anything in the Committee's studies to lead us to conclude that group practice can furnish in general better or cheaper medical care than we have at present. . . .

"Other Disadvantages to the Physician in Group Practice.—Except for the heads of the group, freedom of action is restricted in respect to vacations, study, travel, attendance upon scientific meetings, and even publication of medical articles, by the will of the chief or chiefs of the clinic. . . .

"The plans advocated in the majority report involving groups made up of general practitioners and specialists are theoretically attractive but thoroughly impractical. . . .

"We wish to make it clear that the above discussion of group practice does not refer to the association of physicians upon the staffs of hospitals nor their contact and consultation in clinics.

"Groups of specialists as distinctive organizations are very valuable for diagnosing or treating difficult or complicated cases, but for the 85 per cent of illnesses which make up the family doctor's practice better service can be given by the individual doctor in his own office than in a clinic, and at less cost.

"It should be remembered that medical groups are subject to financial failure, just as are other business ventures. This has happened repeatedly and is not prevented by having a lay business manager in charge of finances. . . .

"It seems clear that recommendations for further trial and expansion of voluntary insurance schemes in the United States are entirely inconsistent with the committee's own findings. To recommend that our own country again experiment with discredited methods of voluntary insurance is simply to ignore all that has been learned by costly experience in many other countries as well as in our own. . . .

"It seems clear, then, that if we must adopt in this country either of the methods tried out in Europe, the sensible and logical plan would be to adopt the method to which European countries have come through experience, that is, a compulsory plan under governmental control.

"Before doing so, however, we should carefully examine this plan as it operates in Europe at present and face the objections to it. It should be remembered that compulsory systems of health insurance in European countries are still under trial. There is stilll no convincing proof that under these systems the costs of medical care have been reduced nor that the new evils to which they give rise are preferable to those which they are supposed to abate. . . .

"There is one aspect of any system of insurance which should be kept in mind by all students of this question, namely, that the total cost of medical care is usually increased when it is paid for through insurance. There are two reasons for this. First, the cost of operation of the insurance plan must be added to the cost of medical care. . . .

"It is our conviction that the Committee on the Costs of Medical Care would have served its stated purposes and the cause of medical progress and the people's health much better if it had taken a strong stand against all of those methods of caring for the sick which have in them the dangers and evils of 'contract practice.' By doing so they would have come to the assistance of the medical profession in a battle against forces which threaten to destroy its ideals, disrupt its organizations and completely commercialize its practice, and which are at the same time opposed to the public welfare. . . .

IV. CONCLUSION

"The problem of the payment of the various expenses that accompany disease and injury has arisen as a result of developments in the medical field, on the one hand, and of complex changes in the economic and social order on the other. . . .

"It is plain, therefore, that many of the problems which are under discussion are the general problems of a transitional stage in social development and are not peculiar to medicine or medical care. Their solution must depend upon far-reaching social and economic adjustments. They are analogous to the problems which caused great social and political unrest in the last decade of the last century and which were not settled until there was a general increase in wages to compensate for improvements in the standards of living.

"It does not seem probable to this minority group that these complex problems can be solved nor necessary social readjustments hastened by the widespread adoption of the recommendations of the majority of this committee for the group practice of medicine or group purchase of medical care.

"Our understanding of the majority report is that it offers essentially the following type of medical practice in the future: The medical profession is to be formed into large or small groups, preferably large, and these groups are to furnish medical care under some type of contract with groups of laymen, the funds to be furnished by insurance, preferably of the voluntary type. Over against this we offer medical care furnished by the individual physician with the general practitioner in a central place; with groups and clinics organized only where the nature of the situation and character of the personnel render such organization a natural development; with elimination of waste in our present methods and coördination of all existing agencies; with careful trial of new methods based upon sound experience; and with adoption of insurance methods only when they can be kept under professional control and destructive competition eliminated; all of this through a well organized, untrammeled medical profession true to the great traditions and ethical standards of the past. Centuries of progress in the conquest of disease gives us confidence that the individual and not the group should remain the unit in the practice of medicine.

"We wish to emphasize once more, in closing, our accord with the majority of the committee in their recommendations for improvements in public health service and in the scope of medical education. We would especially express our appreciation of the great value of the mass of factual data compiled by the staff and so ably summarized in the summary volume.

A. C. Christie
George E. Follansbee
M. L. Harris
Kirby S. Howlett
A. C. Morgan
Olin West
Robert Wilson
N. B. Van Etten."

* * *

In Conclusion.—These excerpts have been printed to permit members of the California Medical Association to give early consideration to the final report of the Committee on the Costs of Medical Care. The editor takes the liberty of suggesting to the program committees of all county medical societies in the California and Nevada Medical Associations that one or more members be definitely appointed to bring in a paper or papers on this final report. It took five years to gather this factual information, and its collection cost almost $1,000,000. It would seem self-evident, therefore, that the conclusions finally reached should be given careful consideration by the county units of organized medicine in the United States of America. Much of whatever will come out of this effort of the Committee on the Costs of Medical Care will originate and be tried out through county medical societies. It is hoped all county units will give the report early and careful consideration.

THE COMMENTS OF THE "JOURNAL A. M. A." ON THE FINAL REPORT

Reaction of the American Medical Association. As the revised proofs of the December California and Western Medicine were about to be sent to the printer, we received galley proofs of comments which will appear in the editorial and medical economics columns of the December 3 *Journal of the American Medical Association.* Because they shed additional light on the work of the Committee on the Costs of Medical Care, it seems advisable to reprint here several of the paragraphs. These follow:

"This week the Committee on the Costs of Medical Care completed its five-year study and made available a final report. An abstract and analysis of the report appears under Medical Economics in this issue of The Journal. The recommendations of the majority of the committee will not come as a surprise to the thousands of physicians who have followed closely the trend of the studies as indicated by the reports published from time to time since 1927. The director of the work, Harry H. Moore, Ph. D., published a book called 'American Medicine and the People's Health,' which revealed his personal bias for insurance schemes and, indeed, for governmental practice. So definite was the trend of the committee's studies in this direction that one must view the expenditure of almost a million dollars by the committee and its final report with mingled amusement and regret. A colored boy spent a dollar taking twenty rides on the merry-go-round. When he got off, his old mammy said: 'Boy, you spent yo' money but where you been?' . . .

"Briefly, the majority report recommends that medical practice be rendered largely by organized groups associated with hospitals, and it expresses the hope that these groups will maintain the personal relationship between patient and physician so essential to good medical care. The rendering of all medical care by groups or guilds or medical soviets has been one of the pet schemes of E. A. Filene, who probably was chiefly responsible for establishing the Committee on the Costs of Medical Care and in developing funds for its promotion. Such practice has, moreover, on various occasions had the endorsement of representatives of some of the eight foundations that contributed financial support. . . .

"These two reports represent, therefore, the difference between incitement to revolution and a desire for gradual evolution based on analysis and study. The majority report urges reorganization of medical practice, the development of centers, insurance; if necessary taxation to provide funds; expansion of public health services. The minority is willing to test any plan that may be offered if it conforms to the medical conception of what is known to be good medical practice. . . .

"The Journal, under the auspices of the Board of Trustees, representative of organized medicine in this country, urges physicians to familiarize themselves with the abstract of the final report of the Committee on the Costs of Medical Care which appears in this issue, if not with the complete report. It urges, after careful consideration, support of the minority report signed by the representatives of the American Medical Association in the committee. The alinement is clear—on the one side the forces representing the great foundations, public health officialdom, social theory—even socialism and communism—inciting to revolution; on the other side, the organized medical profession of this country urging an orderly evolution guided by controlled experimentation which will observe the principles that have been found through the centuries to be necessary to the sound practice of medicine. On the one side are alined the forces that would practice one kind of medicine for the rich, another for the wage-earner and the indigent; on the other side are the physicians who know that, from the point of view of the physician who studies bodies and minds, all are human beings. The physicians of this country must not be misled by utopian fantasies of a form of medical practice which would equalize all physicians by placing them in groups under one administration. The public will find to its cost, as it has elsewhere, that such schemes do not answer that hidden desire in each human breast for human kindliness, human forbearance and human understanding. It is better for the American people that most of their illnesses be treated by their own doctors rather than by industries, corporations or clinics. The American Medical Association, through its Board of Trustees, supports the minority report. No doubt the House of Delegates at its session in Milwaukee next June, will urge every physician affiliated with the Association to do likewise."

CALIFORNIA MEDICAL ASSOCIATION PRIZE ESSAYS

Importance of Coöperation.—Several years ago the Council of the California Medical Association authorized two annual prizes, one for the best paper on a research study and the other for the best paper on a clinical subject. The prize to each successful entrant takes the form of a $150 purse and a neatly engrossed and framed certificate. One of the reasons the California Medical Association Council offered these prizes was to encourage younger men in the profession to present papers at the annual sessions. Last year the rules were broadened so that any paper presented at an annual session could be entered in the prize competition, provided the identity of the author was not divulged to the Committee on Prizes. A standing notice concerning these prizes is printed on advertising page 2 of every issue of California and Western Medicine. It is stated therein that the Association Secretary will send detailed information to any member who wishes to know more concerning the conditions governing the prizes. All correspondence is held as confidential. Comment is here made concerning these annual prizes in order to emphasize the desirability of a large number of entrants, because then the Council will feel justified in sanctioning the expense involved. Last year twelve papers were submitted. It is hoped an even larger number will be sent to the committee this year. The 1933 annual session will convene at Del Monte on April 24. There is still time to act. You are invited to submit a paper. For reference to this year's prize papers, see June California and Western Medicine, page 383, and July California and Western Medicine, page 3.

COMMENT ON THIS AND THAT

The New California Legislature.—The roster of the next California Legislature, which will convene at Sacramento on January 3, 1933, is printed in the Miscellany department of this issue of the JOURNAL.

Because of the marked political changes which took place in the recent November election, the legislative halls at Sacramento will contain many new faces. It is reasonable to assume that the majority of these state senators and assemblymen have family physicians; and that the majority of such family physicians are affiliated with nonsectarian medicine. Many of these legislators are personally known to a goodly number of physicians in their respective communities. It would be a very proper procedure for all members of the California Medical Association who are personally acquainted with state senators and state assemblymen to write letters of good wishes and to call attention to the fact that in matters having to do with public health and medicine they would be glad to give such advice as was within their power. Every physician is a citizen of California, and as a citizen he has a perfect right to become acquainted with those fellow citizens who represent him in the legislature and who help initiate laws having a relation to the public health and the medical profession. It would be quite in order for members of the profession to make personal contacts with state senators and state assemblymen before these legislators go to Sacramento. The legislature will convene on January 3, 1933.

Organized nonsectarian medicine requests no special privileges from the law makers, and at this time has no special legislation which it desires to present. Organized nonsectarian medicine stands, however, for the fullest protection of the public health and for the maintenance of those healing-art standards that are necessary if the public health is to be adequately protected. Unless this forthcoming legislative session is different from those that have preceded it, it may be assumed that many proposed laws will be presented during the month of January which will have a direct or an indirect bearing on public health or on medical standards. The legislators will return to their homes during the month of February. The legislature will reconvene in March. If contacts are made with state senators and state assemblymen now, then it will be much easier to arrange for friendly exchanges of opinion with legislators when they are again at their homes during the month of February. Especially so if matters should come before the legislature in which the organized medical profession has a real interest. A pertinent question which every physician may well put to himself is to ask himself whether in the legislative roster that is printed in the Miscellany column he can pick out the state senator and the state assemblyman in whose district he lives.

If by any chance you for one have forgotten the number of your state senatorial and assembly districts, it is possible that the secretary or the legislative committee of your county society may be able to help you. Or a letter to the county clerk or registrar of voters may bring you the information if you send in your residence or voting address. The legislative roster above referred to will be found in this issue on page 426.

* * *

Future Taxes—Relationship to Medical Practice—The National Economy League.—In the economic travail which the world is nowadays experiencing, the matter of taxes becomes of considerable importance to all citizens—especially since taxes, once they are levied, cannot be evaded. Taxes belong to those burdens from which there is seemingly no escape. The large amount of gratuitous service rendered by physicians is of no aid in reducing their taxes. If at a time when the incomes of physicians are very perceptibly reduced, even though they are called upon to work as hard as ever, often without pay, these medical men are also compelled to see legitimate practice infringed upon by an indirect form of state medicine, then their tax burdens naturally seem particularly hard to bear.

In the September CALIFORNIA AND WESTERN MEDICINE, page 214, was reprinted an article by Colonel Charles R. Stark, Jr., calling attention to the fact that the United States Government in 1931 spent $450,000,000 "for the treatment of nonservice cases" (war veterans). One of the special articles in this issue of CALIFORNIA AND WESTERN MEDICINE is a report made at the recent annual session of the Nevada State Medical Association by Dr. Thomas W. Bath of Reno, in which the hospitalization of veterans is discussed. (See page 370.) And in the Miscellany department is also printed an article on "Future Taxes," the same containing excerpts dealing with the same subject, taken from the publication of the California division of the National Economy League. (See page 425.)

These articles are worthy of perusal by all members of the California Medical Association who are interested in the welfare of the profession in which they serve. Indifference to those matters at this time, and nonsupport of officers when efforts are made to bring about an alleviation of some of these ills that came into being in our pseudo-prosperity period of several years ago, will only make the burdens greater and the task of rectification later on the more difficult. The National Economy League invites every citizen to send in his name for membership. It states that "no financial obligation attaches to membership." An organization that is sponsored by former President Coolidge and which has the endorsement of President Hoover, President-elect Roosevelt, General Pershing, Admiral Byrd, and other fellow Americans who stand high in public life, needs no defense as to the importance of its mission or the integrity of its purposes. The excerpts reprinted in this issue show the significance of this recent endeavor. The medical profession has interests involved over and beyond those of taxation. These interests, as before indicated, are none other than those which have to do with what might be called an insidious form of state medicine that would be supported by federal appropriations. The editor suggests that you at least send your name and address to California headquarters of the National Economy League so that through its literature you may be kept informed of this important movement. The National Economy League is a nonpartisan organization. It is in a position to secure desired results where organized medicine acting alone would only bring down upon itself criticisms and condemnations without end. A post card will permit every physician to keep in touch with this proposed reform, in which so many scientific and material interests of the medical profession seem to be involved. For further information concerning the League, see Miscellany department, page 425.

* * *

Good Medical Care Defined.—Publication 22 of the Committee on the Costs of Medical Care deals with "The Fundamentals of Good Medical Care."

It is not possible at this time to go into lengthy discussion on some of the points brought out in the volume. Reference is made thereto because some of our readers may wish to scan the report in its entirety. In the Miscellany department of this issue are listed from the abstract of this Publication 22 what might be called underlying principles having to do with good medical care. These fundamentals of proper medical care are worthy of inspection and of check and cross check by all physicians. (For these, see Miscellany, page 428.)

* * *

Chlorinated Operating-Room Linens.—Medical literature contains articles covering pages almost without end concerning this, that or the other, rare disease, or on some special procedure whereby operative mortality may be lessened and an occasional extra life saved. So also as regards methods which lessen distress and complications. Take, for instance, postoperative adhesions, a complication that has made more than one patient wish that an operation had never been done.

The contribution by Doctor Parsons of San Bernardino, printed in the Case Report department of this issue, calls attention to chlorinated linens and dressings as a possible source of peritoneal adhesions. The matter is of sufficient importance to warrant an investigation in every hospital where operations are performed. It is possible that here may be found a causative factor for a complication that has been equally distressing to both surgeons and patients. Why not find out whether your own hospital is meticulously careful in the disposition and care of surgical cloths and dressings? For Doctor Parson's report of case, see page 389.

* * *

Certified Milk Commissions.—An agency that some twenty-five years ago came into existence—about the same time as the Pure Food and Drug Act—and one which has been a powerful influence in protecting one of the most important of all foodstuffs is that represented by the certified milk commissions. These "certified milk commissions" came into being through the thought of the late Dr. Henry Coit of New Jersey, who copyrighted the name, reserving the right for its use to milk commissions of county medical associations.

In taking up their work the first certified milk commissions had only their common purpose to guide them. It is a real tribute to the efficient administrative efforts put forth by the members of those early commissions that their splendid organizations have everywhere maintained high standards in raw milk production. With the passing years, through national coöperation they have been able to perform an increasingly valuable service for the public. In California, the Bay Region and Los Angeles certified milk commissions came into being about the same time, as was recently noted in an item in the Twenty-Five Years Ago column of this journal.

In October, California and Western Medicine printed the obituary of the late Fitch C. E. Mattison of Pasadena, an ex-president of the California Medical Association, who for a quarter of a century was the chairman of the Los Angeles County Medical Association Certified Milk Commission. The editor of California and Western Medicine became the secretary of that commission when it was instituted and had the pleasure of coöperating with Doctor Mattison in the work that was carried on in the southern part of the state. A cordial understanding has always existed between the California commissions. The maintenance of uniformly high standards in our state has on that account been both a successful and a pleasant task for those members of the California Medical Association who have been identified with the milk commissions.

An illustration of the breadth of vision which is prevalent in the national, state, and county medical milk commission organizations is evidenced in a recent letter from the secretary of the American Association of Medical Milk Commission. It is here reprinted for the information of those who take a special interest in the protection of milk and milk products. Excerpt follows:

> "Inquiries are still being received as to what attitude a milk commission should take regarding the approval of additional farms for certification. This may well be answered by quoting from your secretary's annual report:
>
> "'There are two attitudes that a milk commission can take. Either to throw certification open to all comers who want to undertake the risk and expense, or exercise the power of regulation as per the following opinion:
>
> "'Regarding accepting other dairies for certification in your territory, would say that if in the opinion of your commission your territory is well served and at what you regard as a fair price for this grade of milk in your community, then there is no reason or justification for accepting further supplies. Your function in this regard is a direct parallel to a public service commission dealing with light, telephone or water services. You cannot be compelled to certify a farm. Further, if your present supply is sufficient and meets

> all the requirements and standards, then you have an obligation not to destroy a heavy investment by dividing or thinning the production, where not only the original investment but the subsequent investments would be jeopardized or lost. This is the principle of modern government by control, rather than wasteful competition.' "

Having a relationship to the pure milk problem are some letters which are printed in the Correspondence department of this number of California and Western Medicine. (See page 423.)

Those letters reveal some of the economic phases of pure milk production and distribution. When the next California legislature meets in January next, it will be interesting to scan the different proposed laws having to do with milk and milk products, which at every session find places in the legislative hopper. Happily, thus far most of such legislation which has been enacted in the past has been for the best.

* * *

Medicine Men.—"Medicine Men" is the heading of a recent article by a lay publicist, Aldous Huxley. The essay is reprinted in this issue. (See page 427.)

In the October California and Western Medicine (page 261), some comments on Dean Lyon's plea for more adequate study of "Heredity as a Subject in the Medical Curriculum" referred to the desirability of human sterilization in certain conditions; in order, if possible, that some sort of limit should be placed on the propagation of defective human beings. Huxley puts forward a somewhat analogous thought when, in speaking of the prolongation of life span due to the discoveries of medical science, he states:

> "Unhappily, the millions of sickly children whose lives have been preserved and the millions of old people whose lives have been prolonged by medical science do not constitute on the whole a healthy class of the population."

In the consideration of topics such as these it must be kept in mind that, while the discoveries of modern medical science have been made by the scientists of western civilization, the application of the discoveries has been carried by the Western or European nations possessing colonies to other continents and peoples. The life span of individuals in such oriental and other dependencies has also shown a real increase. If the principles of modern western medical science as manifested in preventive medicine are carried to all continents and parts of the earth, the query arises as to what will be the ultimate destiny of the Caucasian element as represented by the European and American peoples. Reference may be here made to an interesting article in the *Literary Digest* of November 19 entitled "A Census Search-Light on India." Some paragraphs therefrom follow:

> "A population increase in India of 11 per cent in ten years is, in itself, startling enough.
>
> "But it becomes vastly more so when it represents an addition of 34,000,000 persons, or only 6,000,000 less than the total number of people in France.
>
> "The population of India, now, is little less than one-fifth of the population of the entire world.
>
> "That is the outstanding fact, perhaps, of India's decennial census as revealed in 'India 1930-31,' the latest annual report presented to the British Parliament in compliance with the Government of India Act of 1919.
>
> "And all this mass of humanity, we are told, lives in a country containing nearly every extreme of nature that all tropical and temperate zones between them can produce. . . .
>
> " 'The area covered by the general census amounted to about 1,800,000 square miles and its population was returned as 353,000,000, as against 319,000,000 in 1921. The density of population for the whole area worked out at 196 per square mile, as against 177 ten years previously.'
>
> "Yet in all India, it is surprising to note, there are only thirty-five towns which contain 100,000 persons or more. Almost 90 per cent of the population is purely rural, whereas the corresponding figure for a country such as England does not exceed 21 per cent.
>
> "The villages of India number at least 500,000, which are usually mere clusters of tiny mud huts, microscopic in scale when compared with the immense background of plain or forest or mountain against which they are set. . . . "

The above figures apply only to India. What would be the grand total if similar statistics could be cited for China and other countries in the Far East? With increased propagation among non-Caucasian peoples, and lesser population increase among the whites, and with the non-Western World adopting Caucasian inventions in industry and in war, what will be the future for the white man?

Is Huxley right when he intimates that saving lives does not necessarily make for the world's greatest good, on the general proposition that, in a consideration of population and life span, quality as well as quantity should be taken into consideration?

* * *

Rabies—Letters Thereon in the Correspondence Column.—Health columns in newspapers in the last few years have been quite the vogue. To many lay persons these health columns have the same fascination as was possessed by the old patent medicine almanacs of two to four decades ago. Recently the Los Angeles *Times* sent post cards to physicians announcing a change in its week-day health column. That former column was previously written by a graduate of a chiropractic school. The *Times* announced that in the future it would be carried on by a doctor of medicine.

In the Correspondence department of this number of California and Western Medicine are printed some letters which have been exchanged between Health Officer Pomeroy of Los Angeles County and Doctor Brady, who conducts the health column above referred to. The subject of rabies is discussed therein.

When one remembers Pasteur's classical work in the eighties on the virus of rabies, and the extent to which his discoveries have been accepted and applied during the last half-century by the civilized nations of the world, it seems strange to read the statement by an author of a health column of a widely read metropolitan daily newspaper, to the effect that the author "does not know whether the disease (rabies) occurs in man." And again, "It seems to me that the scientific evidence rather indicates that the treatment itself (Pasteur) is a cause of death or a contributing cause in too many such cases."

In contrast to Doctor Brady's viewpoints, just quoted, may be cited those of Dr. Howard W. Haggard of Yale University, who in his book "The Lame, the Halt, and the Blind," in his chapter on "The Canine Madness," states:

> "The last world report on rabies that I have seen, that for 1928, gave for that year the number of known victims of bites from mad wolves, jackals, and hyenas as more than 2,000; in the same period the bites from rabid dogs, and not all are recorded, but only those treated, total well over 30,000."

Professor Hazzard ends his own discussion of the subject with the following words:

> "I mentioned the 30,000 and more instances of people bitten by rabid animals each year. And how many get rabies? About 0.3 of one per cent of them, and they are those who have delayed too long in getting treatment. Today no one need have rabies."

One can draw one's own conclusions. The correspondence between Doctors Pomeroy and Brady, referred to above, is printed on page 421.

* * *

United States Food and Drug Laws.—In the first twenty-five years of their existence, few activities of our federal government have functioned to better advantage than has the United States Food and Drug Bureau. It is gratifying to note how well this department continues to carry on its important public health work. In our own time, this bureau is as much needed as ever for present-day civilization has found no means of preventing the existence or development of humans who, in their desire to acquire money, are utterly regardless of the health and lives of their fellows. Such laws as the Pure Food and Drug acts go far in preventing much illness and death which otherwise would obtain. When one takes into account the fact that in the United States the value of pharmaceuticals and medicinal remedies each year produced and sold, approximates four hundred million dollars, the importance of protection of an industry having so intimate a relationship to the public health at once becomes evident. In the Miscellany department are printed some excerpts from a report just released by the department at Washington. These give further information on the work of the Food and Drug Bureau. (See page 428.)

* * *

California Poor Farms, Formerly and Now.—The poor farms of the larger counties in California are no longer known by such appellations. They have been given kindlier sounding names. In Los Angeles County the present-day name of the county poor farm is "Rancho Los Amigos." A brief historical sketch of that institution is printed in the Lure of Medical History department of this number of CALIFORNIA AND WESTERN MEDICINE (page 384).

To those who are tempted to ask why space is given to such an institution in the official journal of the California Medical Association, the answer is that the county farms of California have become something more than homes for dependent old people. In the Los Angeles Rancho Los Amigos, the infirmary wards now have a total of 1050 beds! That is quite a hospital in itself. Some years ago many of such patients would have been kept in residence for long periods at the Los Angeles County General Hospital. The older buildings of the Los Angeles County General Hospital have been adequate for the housing of the sick of that rapidly growing county only because so many of the chronically ill patients have been transferred to Rancho Los Amigos. It must come as a surprise to many Los Angeles physicians to learn how large is the number of patients in the institution located at Hondo. San Francisco, Alameda, and other counties probably present similar conditions. It would be interesting to secure a tabulation of the beds set aside in these institutions for the chronically ill inmates. Such figures would shed an interesting sidelight on overhead costs incident to the care of indigent sick citizens of California.

Suicide in Vienna.—The Vienna "Statistisches Jahrbuch" for the year 1931, which is published by the federal bureau of social medicine, places the number of attempted suicides during 1931 at 3,204, of which 1,068 were successful. This constitutes an increase of 13 per cent over the record for 1930. There were 629 men and 439 women among the suicides. There were ten children under fourteen years of age who attempted suicide, and four of them succeeded. There were 103 juveniles between the ages fourteen and eighteen who attempted suicide, and thirty-two were successful. During the period from 1913 to 1931, an increase of 44 per cent in the number of suicides was noted. Since the number of normal deaths has greatly decreased and also the population of the country has diminished, this constitutes a marked increase. To cite more detailed figures, 1.5 per cent of the total number of deaths in 1913 were due to suicides, and 2.9 per cent in 1931. There were twenty-eight suicides per hundred thousands of population in 1913, and the number had increased to forty-one in 1931. Among the motives, economic distress shows the highest figure (32 per cent), disease comes next (21 per cent), and disappointment in love affairs is third (14 per cent). It should be noted that among the attempted suicides the women exceeded the men by 200; among the successful suicides there were 190 fewer women. In 50 per cent of all attempted suicides, poisoning (usually with gas) was the method employed.—*Journal of the American Medical Association.*

Compensation for Workmen's Eye Injuries.—The Council of British Ophthalmologists has made an important report on the compensation of workmen for eye injuries. They are of opinion that the Workmen's Compensation Act should be amended so as to secure to the injured workman, in addition to the benefits at present allowed in respect of earning power, a lump sum payment to compensate for permanent loss of function or disfigurement. This principle is already embodied in certain schemes operated by private firms in this country, and a lump sum payment for partial or total loss of vision and other ocular disabilities was recognized in the regulations for the granting of war pensions. It is held that if workmen's compensation included not only part payment of wages during disability but also payment of a lump sum in respect of loss of an eye, a proportion of central vision or part of the field of vision, there would be less delay in the settlement of claims, less subsequent demoralization, with deterioration of eyesight and of health, and less litigation.—*Journal of the American Medical Association.*

EDITORIAL COMMENT

This department of California and Western Medicine presents editorial comment by contributing members on items of medical progress, science and practice, and on topics from recent medical books or journals. An invitation is extended to every member of the California and Nevada Medical Associations to submit brief editorial discussions suitable for publication in this department. No presentation should be over five hundred words in length.

Convalescent Serum Therapy.—The currently reported and apparently reluctant conclusion of Doctors Aycock, Park, and others[1] that convalescent human serum was without verifiable therapeutic value during the recent eastern epidemic of poliomyelitis, is without element of surprise to professional bacteriologists in touch with the rapidly growing complexities of their subject. No progressive bacteriologist today would dare predict whether poliomyelitis convalescent serum should logically succeed or equally logically fail. Predicted success would be but affirmation of personal endorsement of the historic "static" theory of microbic specificity. Predicted failure would be but rhetorical overemphasis of the newly suggested "dynamic" microbiology.

Fifty years ago pathologists were introduced to a new biologic world and intuitively read into the newly discovered disease germs concepts and generalizations drawn from racial experience with higher animals and higher plants. Centuries of experience had taught modern man that, from generation to generation, higher plant and animal species are very nearly static in anatomical structure and physiologic peculiarities. Since the Middle Ages rats had never been known to transmute themselves into frogs, nor to disintegrate into a swarm of locusts. Without realizing the necessity of experimental proof, an equal racial stability was assumed for pathogenic microörganisms, which assumption became the major premise for subsequent epidemiologic and therapeutic deductions. Specific vaccines and specific antiserums had predictable therapeutic value because the corresponding viruses were assumed to remain qualitatively static in antigenic individuality under any and all test-tube conditions and conditions of natural or artificial infection.

Much as conservative theorists[2] may find debatable details in the newly suggested "dynamic" microbiology, test-tube "dissociation" of pure cultures of pathogenic microörganisms into two or more morphologic, tinctorial or biochemic variants is no longer in dispute.[3,4,5,6] That the same infectious agent injected into two different animal species may acquire qualitatively different vaccination potentials is now well confirmed, with similar "biomutation" even alleged in different organs of the same animal. That the spirochetes of relapsing fever are of different specificities in successive waves of the same infection is now generally recognized, with equally marked differences in antigenic specificity alleged between primary and tertiary *T. pallidum.* No up-to-date bacteriologists today would dare predict that second-wave convalescent relapsing fever serum would necessarily have a verifiable specific therapeutic effect against an initial injection with *S. recurrentis,* nor that tertiary convalescent syphilitic serum could be assumed without convincing clinical tests to be a logically effective therapy against primary or even secondary syphilis.

Nothing, of course, is known as to the degree of "biochemic plasticity" or "chemomutation" of the poliomyelitis virus during the course of a natural human infection. Any specific therapy which asumes 100 per cent antigenic stability for this virus, however, is little more than a justifiable clinical gamble.

Due to the numerous debatable questions between the radical and conservative schools of bacteriology, clinicians must receive and try specific vaccines and specific antiserums with an open mind, and judge their predictable efficacy solely from adequately controlled clinical data.

Stanford University.

W. H. Manwaring,
Palo Alto.

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[1] Science Service Report, Science (Supplement), 74:10 (Oct.), 1931.

[2] Winslow, C. E. A.: Science, 75:121 (Jan. 29), 1932.

[3] Hadley, P., Delves, E., and Klimik, J.: J. Infect. Dis., 40:1, 1927; 48:1, 1931.

[4] Miller, F. R.: Science, 74:343 (Oct. 2), 1931.

[5] Mellon, R. R.: Proc. Soc. Exper. Biol. and Med., 29:206 (Nov.), 1931.

[6] Sherman, J. M., and Safford, C. E.: Science, 74:602 (Dec. 11), 1931.

The Pharmacologic Action of Chiniofon.—Commercial drug manufacturers generally fail to offer the medical profession full and satisfactory pharmacologic data on new drugs exploited for some specific medical purpose. Adequate toxicity data are usually lacking. This important information frequently is supplied by outside research laboratories only after some trouble or other has arisen in connection with the use of the drug. For example, the toxic action of cinchophen (New and Nonofficial Remedies) ("Atophan") on the liver is only now being properly studied following the many cases of liver damage and even death that have apparently resulted from the use of the drug, although when it was originally introduced the absence of any significant information on toxicity as supplied by the manufacturers would naturally lead the medical profession to presume that the drug was relatively nontoxic. It is my opinion that drug manufacturers should be held responsible for the untoward effects of drugs introduced by them for which important data, especially on toxicity, is not afforded.

The recent report by Schwartze and Billinghurst[1] on the pharmacologic action of chiniofon is another illustration of this proposition. Chiniofon (New and Nonofficial Remedies) has been exploited by various manufacturers under such registered trade-marked names as "Yatren" and "Anayodin," for oral use in amebiasis. No indications are given in the advertising literature on this material of any of its possible toxic effects. Chemically it is sodium iodoxyquinolin sulphonate mixed with sodium bicarbonate. The iodin is apparently split off rather easily. Schwartze and Billinghurst note that the drug produces liver and kidney damage and find that it depresses circulation and induces irregular cardiac action.

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[1] Schwartze, E. W., and Billinghurst, G. A.: Studies on the Pharmacologic Action of Chiniofon Other Than Its Amebacidal Properties, J. Pharmacol. and Exper. Therap., 45:273 (July), 1932.

Department of Pharmacology, University of California.

C. D. Leake,
San Francisco.

The Endocrines and Cancer.—Much effort has been expended on the possible bearing of the endocrines to malignant disease. The basic way of attacking this problem is in the experimental laboratory. The distinct interrelationship of many of the endocrine glands introduces many variable factors that must be controlled, and it is impossible to do this when dealing with clinical material.

It is conceded by students of malignancy that spontaneous tumors, widely encountered in the animal kingdom, are essentially analogous to similar processes in man, and, further, that at times such tumors may be transferred from one animal to another of like species with a high percentage of success, thereby assuring a continuous material with which to work. In this way it is possible to study large numbers of tumors of the same age and origin, under various experimental conditions, and at the same time reserve an adequate number of controls of identical origin and inherent behavior.

Several methods of attacking this problem in the laboratory have been used. One of these, the administration of endocrine gland extracts, can never answer the question satisfactorily as long as the endocrine system of the experimental animal is intact, for it is impossible to be certain where the action of the functioning gland ceases and that of the experimental extract, if any, begins. Only when a known complete or measurable glandular deficiency exists may a potent extract give considerable quantitative information.

A better method of determining the influence of a given gland on experimental cancer is by complete ablation of the gland in question, thereby producing a total deficiency of its secretions. In the case of glands elaborating more than one hormone, these may then be substituted by injection, one at a time, in adequately controlled series, to determine the particular one whose absence was responsible for the effects observed. Surgical extirpation of the thyroid, parathyroids, thymus, spleen, adrenals, and gonads have been studied with respect to experimental cancer, with essentially negative results except for the work of Lathrop and Loeb[1] on the effect of ovarectomy whereby castration of female mice before the age of six months led to a marked decrease in the expected incidence of mammary carcinoma but not to total prevention. This was attributed to removal of the influence of the corpus luteum.

Recently California workers have studied the effect of extirpation of the hypophysis in its relation to experimental cancer. Completely hypophysectomized animals were found not only much less likely to grow a transplanted tumor when inoculated, but, if growth occurred, it did so at a much reduced rate.

Thus it has been demonstrated that the absence of certain endocrine glands does influence the natural course of experimental tumors. It may readily be surmised that certain hormones might also produce an effect, but until it has been shown that patients with malignancy are deficient in, or hyperproductive of, one or more of these endocrine principles, the use of glandular extracts in such cases must remain a purely empirical procedure.

San Diego County General Hospital.

Howard A. Ball,
San Diego.

The Use of Grenz Rays (Bucky Rays).—An interesting lecture on Bucky rays, the use of which is not yet generally known, was recently delivered by Professor Doctor Kumer before the Wissenschaftliche Aerztegesellschaft of Innsbruck (Tyrol). Bucky rays, which are also called grenz rays, are nothing more than long wave, or very soft, roentgen rays. They are produced in every roentgen tube, but are entirely absorbed by the glass of the tube. In order to make them available for use, a thin glass window must be built into the roentgen tube. Theoretically, very soft roentgen rays are supposed to be much more dangerous than the hard rays, but in practice the Bucky rays have been found to be harmless. Even a dosage equal to 1,000 erythema doses produces no ulceration if it is applied within a short space of time. These rays are used chiefly for superficial disease processes, especially those of a dermatologic nature. They are used with success also in ophthalmology. In internal medicine, however, their action has not thus far been found to be especially perceptible, the same being true of gynecologic practice. On the other hand, Kumer and Krainz (both of Innsbruck) have applied irradiation to the mouth and the pharynx with good success and they recommend this method as an excellent means of combating the so frequent and so resistant pharyngitis sicca. Previous research on this disorder has not clarified the etiology, though possibly hormonal disturbances may be assumed. Krainz employed the Bucky rays in ten especially refractory cases, applying doses of from 300 to 400 roentgens to the posterior wall of the pharynx through a hard rubber tube. After an interval of three weeks the irradiation was repeated, from three to four such applications having been given. The results were in all cases satisfactory, and in four cases the outcome was exceptionally good; but the good effects are nearly always confined to the irradiated surface, where the mucosa become smooth, moist, and of normal appearance. The subjective symptoms usually disappear after the second treatment, but in some cases only after the lapse of several weeks after the last treatment. The oldest case has been observed for two years, and the most recent case for six months. Excised tissue taken from the pharyngeal mucosa before and after treatment showed that the original chronic inflammatory conditions in the epithelium retrogressed after the applications of the grenz rays. While this new treatment possibly will not in all cases yield the same good results, the method must be regarded as an improvement over the previous methods applied to pharyngitis sicca.—*J. A. M. A.*

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[1] Lathrop, A. E. C., and Loeb, L.: J. Cancer Res., 1:1 (1916).

C. M. A. DEPARTMENT OF PUBLIC RELATIONS

An open forum for progress notes on the department's activities, and for brief discussions on medical economics. Correspondence and suggestions invited. Address Walter M. Dickie, Room 2039, Four Fifty Sutter Street, San Francisco. This column is conducted by the Director of the Department.

The Clinic Problem*

The growth in the number of clinics that has appeared in the past several years has been a very phenomenal one, and has been in direct proportion to the depression that has involved the country. There is a direct relationship between the development of clinics and the economic status of doctors and the lay public.

USE OF THE WORD "CLINIC"

The word "clinic" has always meant, until recent years, a place where one could go and get the *best* of medical care and treatment for a consideration without cost or without regard to the thing furnished. Originally clinics were only associated with teaching institutions, where the professors gave their services to the people for the privilege of being allowed to use them as teaching material.

Today the word "clinic" means a variety of institutions, associations, groups, societies, and so forth, who are practicing medicine under the guise of clinics. Some of these clinics have as a basis, health insurance. Others are private in nature, and a clinic is merely used as a lead in order to increase the practice of some groups of physicians or some individual physician.

Others are attempts by associations, societies, fraternal orders, to give medical service at a lower cost to selected groups. Others are maintained for the purpose of collecting statistical data on some unrecognized type of therapy. Others are maintained in the more thickly populated areas to give medical service to those who are in such unfortunate circumstances that they are unable to pay for adequate private medical service.

The number of clinics has grown to such an extent that it has become quite a problem to find sufficient doctors available to adequately staff them. Taking advantage of this situation, civic organizations, clubs, religious organizations and other groups are offering medical service free or nearly so, and demanding of the physician volunteer service by utilizing the whole principle of clinic service as it was originally started.

Clinics are necessary adjuncts to thickly populated areas, but many are unnecessary and are mere duplications of existing agencies for relief, while many simply disguise the private practice of medicine. The doctor abets this evil by volunteering his service to a clinic because it is a clinic, irrespective of the type of service, the need of the community, and the purpose for which the clinic has been established. Other doctors utilize this service for furthering their own private gains and establishing large medical service institutions.

The Public Relations Department of the California State Medical Association has studied the situation as it affects the economic structure of society, and hopes to make a constructive program that will safeguard the public by insuring the public good medical service, and safeguard the physician by maintaining his integrity, individualism, and his economic status.

San Diego Medical Society Plan for Medical Social Service

In the November issue of California and Western Medicine was printed the Alameda County Medical Society medical service plan assuring adequate medical care for all those persons in the county above the indigent class who were previously receiving medical care at the health centers. Following this announcement the Public Relations Department of the California Medical Association is in receipt of a similar plan formulated by the San Diego County Medical Society. The following letter was issued on October 7, to the membership:

Dear Member:—Plans for medical social service and for part-pay clinics and reduced fee schedules for use in physicians' own offices were definitely gotten under way on September 12, when the board of directors of the Central Clinic Service was organized.

The board of directors of the Community Chest, acting on the recommendation of the budget committee of that organization, has included the Central Clinic Service for a budget of $2,500 to assist in establishing the social service necessary to carry out its plans for medical care. According to the recommendation of the Health Council and the County Medical Society, authorized on August 18, 1932, standards for clinic service have been set up and recommendations as to the work of each clinic in San Diego have been specified. The plan includes a coördinated social service in order to prevent duplication of service among the clinics and to assure proper allocation of patients.

With the coöperation of the medical society and the clinic resources of the community, this plan can assure every person in San Diego of medical care according to his means. It will prevent persons from using free clinic facilities because no other type of medical care is available and it will protect the physician from the patient who assumes bills which he cannot pay because no definite knowledge is known of the patient's social or financial situation. The reduced fee schedule will allow patients to call on physicians of their choice and give the physician definite medical and social information.

Recommendations as to changes of the work of the various clinics now in existence are to be worked out by the Central Clinic Service under the direction of Doctor Newman, with the coöperation of the medical society. A further bulletin giving medical society members exact information on the services to be rendered them by this organization will be sent later.

Your coöperation and interest in the plan is urged.

(Signed) C. O. TANNER, M. D.,
President, San Diego County Medical Society.

Veterans' Administration Hospital Program—A Protest

The Congressional Investigating Committee on Veterans' legislation is now meeting in Washington and one of the subjects that will be brought before the committee for investigation will be the building program for the veterans' hospitals.

It has been estimated that the maximum hospitalization that will be required in 1947, if the program is carried out, will be a total of 130,000 beds. From the year 1947 on, these government hospitals would still be in existence, maintained by public funds, while the number of veterans would be rapidly decreasing.

The medical profession feels that it would be more efficient and economical to use private hospital beds which are now vacant, some 300,000 of them, in the various hospitals of the United States. The following is a letter of protest against the proposed Veteran Administration Hospital building program, sent to the Congressional Investigating Committee from the Alameda County Medical Association, signed by the members of that organization, and voicing the opinion of a large part of the medical profession.

To the Congressional Investigating Committee.
Re: Veteran Administration Hospital.

1. We are entirely in accord with the plan of giving adequate care to all veterans who have war and/or service connected ailments and disabilities.

2. There are at present 2097 hospitals in the United States that are so well equipped, staffed, and conducted

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* A report submitted by John C. Ruddock, M. D., Los Angeles.

that they are accorded the official approval of the ablest hospital authorities in America.

3. In these hospitals there are at present 300,000 empty beds.

4. In the face of these facts we are convinced that the duplication of existing but idle hospital facilities by the expensive program of the government in the matter of the veterans' administration hospitals is a needless expenditure of government funds.

5. While leaving millions of dollars' worth of well-established institutions idle, the present program does two things besides wasting public money in needless construction and thereby further threatening our economic security.

(a) It competes directly with private hospitals that are as well conducted as government institutions and this greatly to the private hospital's disadvantage.

(b) It enters into like competition with the doctors who are practicing independent medicine, and thus officially undermining two major institutions which constitute two of the greatest bulwarks of society.

6. The veterans' administration program will be terminated as a matter of course in not very many years and the government will then have upon its hands a large group of architectural triumphs which once were hospitals for which the property owners will have paid in taxes, but because of which the medical profession and hospitals will have suffered unwarranted limitations of their resources.

7. Particularly do we realize that with proper organization every veteran who is entitled to medical care at the expense of the government could be treated with the same efficiency and skill by the independent practitioners in his home community and/or in the many approved hospitals that could at all times furnish adequate accommodations.

8. The enormous expense involved in building, maintaining (and perhaps later abandoning) government hospitals is one of the numerous menaces to our national economic structure. The needless competition with hospitals and independent practitioners of medicine places an unwarranted and unwarrantable load upon two of the most important institutions in the commonwealth.

We the members of the Alameda County Medical Association, individually and collectively, respectfully urge that you give serious consideration

1. To the careful limitations of this program of building and staffing new institutions;
2. To the utilization of present entirely adequate institutions for such care;
3. To the utilization of an entirely adequate independent medical practice for the professional care;
4. To the rendering of service to veterans exclusively who are suffering from war and/or service connected ailment and disabilities.

(Signed) MEMBERS OF THE ALAMEDA
COUNTY MEDICAL SOCIETY.

Legislative Proposals Presented at the Public Hearings Held in Los Angeles, San Diego, San Francisco, Oakland, Fresno, and Sacramento for Relief of Unemployment.—(a) Creation of a state building fund to permit citizens to borrow for home building, under conditions similar to those now granted ex-service men.

(b) Action by the state to give authority to municipalities to acquire by condemnation, land for slum-clearance programs, and to authorize formation of limited dividend companies in connection with such programs.

(c) Tax exemption for a period of ten years on private building construction started during the next three years, as a means of stimulating industry.

(d) Creation of a state economic council to assist in stabilization of employment.

(e) Authorizing the Department of Industrial Relations, or some commission, to promote the regularization of employment.

(f) A study of California industries with a view to stabilizing seasonal employment.

(g) Establishment of a state bureau of industrial training to develop a program of vocational reëducation.

(h) Amendment to the public works law to provide for creation of reserves to be released during periods of depression.

(i) Provision that highway funds need not be allocated definitely to certain highways, in order to permit the Department of Public Works to meet emergencies.

(j) Prohibiting taking a fee from any person sent to a public construction job or public works.

(k) Requiring registration of all unemployed.

(l) Provision for publicly owned and operated shelters, in the centers of population, for homeless unemployed men.

(m) Amendment of the residence law to provide for the care of migratory workers who are residents of the state, but without a settled place of abode in any county.

(n) Extension of operation and service rendered by the state labor camps.

(o) Further restriction of child labor and extension of educational opportunities for children.

(p) Extension of scope of old-age pension law to include groups not now covered, or to lower the age limit and increase the amount of pension.

(q) Automatic adjustment of minimum wage rates for women and minors to meet changes in the cost of living.

A significant feature of the hearings was the emphasis placed by a majority of the speakers on corrective measures. The economists, business men and representatives of organized labor who testified were mainly concerned with the elimination or reduction of unemployment. Although alleviation of the existing distress was naturally urged as the primary consideration by those in direct contact with the relief situation, many of the proposals presented by such groups have to do with preventive action. Delegates from the welfare organizations and unemployed workers in a number of instances advocated, in addition to emergency assistance, the adoption by the state and municipalities of some constructive program looking toward a solution of the problem.—California State Department of Industrial Relations. Report to Governor's Council, August, 1932.

Itemized Statements.—Everyone who has practiced medicine for any length of time has met with the demand from patients for itemized statements after the usual monthly bill has been sent showing the amount only of the indebtedness. An itemized bill has the merit of forestalling any complaint on that score. The editor of the *Wayne County Medical Bulletin* comes forward with a suggestion that is worthy the consideration of all.

"Bills that are not itemized often create resentment in the minds of patients and frequently raise the question as the validity of the charges made for services. These two factors mitigate against prompt payment of the account in question and are responsible in no small measure for disagreements between patient and doctor.

"The average debtor is interested in having placed before him an itemized account so that he may have the opportunity not only of checking the individual items for which he is being charged, but of adding the sums involved to make sure that no mistake has been made. Since he is the one who is asked to foot the bill, he feels that he has the right to know just what items he is charged with and how much he is paying for each of them. On receiving a bill which denies him this privilege his first reaction is to delay payment until the explanation that he feels is his due has been made. Almost invariably, a lump sum looks bigger than the same figure arrived at by the addition of a number of smaller charges and is likely to create an undesirable impression of exorbitance.

"The common practice among doctors to send out unitemized statements may be responsible for the feeling that doctors' bills come high, and may be one of the reasons behind the general tardiness in the payment of those bills.

"Those physicians who have changed to the more businesslike method of itemizing their accounts report a decrease in disagreements with patients, and a gratifying increase in collections.

"There is no good reason why the medical profession should not adopt, for the side of its practice, those tried methods which business in general has found valuable. If so simple a procedure as itemizing our bills promises to eliminate dissatisfaction and speed up payment, then by all means let us all adopt the method and put it into use at once."—*Journal of the Michigan Medical Society,* September, 1932.

CANCER COMMISSION OF THE C. M. A.

The Cancer Commission was brought into being by the House of Delegates of the California Medical Association to aid in the furtherance of all efforts to combat cancer. The roster of officers and the central office of the Commission to which communications may be sent is printed in this issue of California and Western Medicine (see front cover directory). This column is conducted by the Secretaries of the Commission.

REPORT OF THE COMMITTEE ON RADIOLOGY

I

Inasmuch as every delay lessens the efficacy of treatment instituted against cancer, therefore it is only on the first occasion that the best therapeutic opportunity is had. For this reason the first treatment must carry all the force and skill available to the medical profession. The committee is agreed that before treatment is begun in a case of cancer, consultation should be had between all the specialists who will possibly be called in on the case, and an agreement reached as to what therapeutic agents shall be used in that case, and if more than one is to be used, the time relations of those treatments.

The committee thinks it not tolerable that the radiologist should be called in consultation only after surgical or other treatment has been undertaken. The converse is also true that it is not tolerable that the surgeon should be called in consultation only after radiation has been applied.

RECOMMENDATIONS OF COMMITTEE ON RADIOLOGY

General.—The committee regarded the skill, experience, and judgment of the physician using radiation methods to be far more important than the amount or type of apparatus used. Physicians using radiation methods, as radium and roentgen machines, in the treatment of malignancies should possess certain minimum requirements of experience and training, and also have available certain definite equipment. The committee accepts as satisfactory the educational requirements as outlined by the Committee on Physical Therapy of the American Medical Association.*

Equipment for Treating Superficial Malignancies.—Minimum requirements for radiation therapy in superficial malignancies should include both radium and x-ray apparatus—a roentgen-ray machine capable of from 100 to 135 kilovolts and filters up to one-fourth millimeter copper in the treatment of superficial malignancies. Minimum requirements for radium call for at least fifty milligrams of radium (one hundred milligrams preferably) to deal suitably with all superficial malignancies. The radium should be divided in units so that various amounts may be selected for lesions as indicated, units of five milligrams to twenty-five milligrams being desirable. Suitable filters having a value of the equivalent of from one millimeter brass to two millimeters platinum should be available. This equipment would allow for either the single massive dosage treatment or the prolonged (Regaud) type of treatment as indicated.

Equipment for Treating Deep Malignancies.—In the treatment of deep malignancies, a transformer outfit capable of 165 to 200 kilovolts is required. Distances of from fifty to seventy centimeters or more are used. Filtration should not be less than one-half millimeter copper. Ionization methods of dosage measurements in international roentgens, the accepted unit of measurement, should always be used. Anatomical measurements of the patient and tumor plotting are strongly recommended for accurate dose calculation.

One hundred milligrams of radium was regarded as the minimum amount necessary for satisfactory treatment of deep lesions and larger amounts are desirable. The methods of use, depending upon the type, location and size of growth, include radium packs for external application with filtration up to two or three millimeters lead; for interstitial application, radium element needles filtered by platinum or gold radon seeds.

These are considered as minimum requirements for apparatus, it being felt that anyone treating a small primary lesion should be prepared also to treat extensions and metastases.

The following statements regarding specific types of lesions represent as accurately as can be stated the majority opinion of members of the committee, except that, in conference with the Cancer Commission, the report has in some particulars been modified or amplified to conform to a more general agreement with surgical opinion. The recommendations for the use of radium and roentgen therapy in some lesions have not been as strongly urged in this report as in some large cancer clinics throughout the world, since at the present time adequate facilities for radiation therapy are not universally available.

KERATOTIC LESIONS

It was agreed that keratotic lesions may be treated satisfactorily by x-ray, radium, surgery, or electrocoagulation. If radiation is elected, it must be carried out skillfully with modern technique. The production of telangiectases and hyperkeratoses by ill-advised radiation may leave a worse end-result than surgical excision.

MOLES

Pigmented moles (especially the raised, flat-topped, deeply pigmented, non-hairy type and especially where subject to irritation, as on the sole of the foot, at the collar-line, etc.) are among the most important of precancerous lesions. When they become malignant, the change is insidious and distant metastases, whether demonstrable clinically or not, are likely to have occurred before the original mole changes its gross appearance. Prevention is practically the only cure for these malignancies, and pigmented moles of this type should be attacked while still benign.

They must be completely eradicated at the first treatment. Surgical excision with wide margin of normal tissue is generally regarded as the method of choice. Some good results were mentioned from the use of unfiltered x-ray, the dose being sufficient to destroy the mole completely. It was agreed that destruction of the mole by electrocoagulation is not to be recommended.

After malignant degeneration has taken place, metastasis has usually occurred and no method of treatment will ordinarily cure. Only three men had seen five-year cures from malignant melanoma.

CARCINOMA OF THE SKIN

Radiation is a proper treatment for skin carcinoma of basal cell type and may leave a better cosmetic result than any other method. Many lesions of squamous cell type are satisfactorily treated by radiation, surgical excision or electrocoagulation; or a combination of these with radiation may be preferable for some. The choice must depend upon experience, judgment, and consultation. Biopsy is advised either at the time of surgical excision or after radiation has been begun.

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* Must be licensed graduate of acceptable medical school with three years' special training in radiology at an acceptable school or five years' experience in practice exclusively in radiology, roentgenology, or radium therapy.—Journal of the American Medical Association, Vol. 98, p. 985. 1932.

Filtered radium and unfiltered x-ray have both been used successfully, the majority preferring radium. Some preferred divided dosage rather than one-stage treatment.

INTRAORAL MALIGNANCIES

Lip.—It was unanimously agreed that radiation will cure the primary lesion in carcinoma of the lip in as high a percentage of cases as will surgical excision and commonly with better cosmetic results. The majority of the committee considered radium preferable to x-ray, though some members have used unfiltered x-ray with satisfaction. Opinion was about evenly divided as to whether single massive dose or so-called "saturation methods" should be used.

In the treatment of palpable metastatic glands, a combination of radiation (x-ray, radium pack or seed implantation—preoperatively, postoperatively, or both) and surgical dissection en bloc of the gland-bearing tissue, at least of the submaxillary triangle on one or both sides of the neck, depending on the location of the primary growth, should be carried out. (See report of Committee on Skin and Mouth Tumors to be published later.)

Neck Metastases.—The problem of the neck when glands cannot be felt is one upon which disagreement has appeared. Some feel that the neck should be radiated routinely. Others believe that nothing need be done to the neck until or unless glands can be felt. Still others feel very strongly that neither of the above courses is satisfactory, inasmuch as ordinarily "prophylactic" radiation cannot be depended upon to destroy even minute metastases, while if delay is allowed until glands are felt, further extension is likely and so the chance of cure reduced.

A logical view is as follows: When lip cancer has undergone deep invasion (for practical purposes as far as to the underlying muscle) metastases are likely to be present whether palpable or not. From this point of view, lip cancer may be divided into three stages:

1. An early stage in which the lesion is so superficial that clinical diagnosis of no deep invasion may safely be made. In this group it may be assumed with safety that metastasis has not occurred and the primary growth can be treated by radiation or surgery equally safely.

2. A late stage so far advanced that deep invasion is obvious. In this group, regardless of the method of treatment adopted for the primary lesion, radiation and neck dissection should be done.

3. A small group of moderate duration and size in which it is impossible to determine by clinical examination whether or not muscle invasion has occurred and so, whether or not metastasis to the neck is probable. In this group the primary lesion should be excised surgically, not because it itself cannot be cured by radiation but because excision and histological examination of a complete cross-section offer the only method of determining extent of invasion and so, whether or not gland dissection should be done at once.

Mouth, Cheeks, and Tongue.— Carcinoma in these locations is practically always of squamous cell type and commonly of moderate to high degree of malignancy. By reason of these facts and of the vascularity of the tissue in which they arise, they are prone to spread rapidly and metastasize early.

It was agreed that early, well-localized growths where readily accessible (as on the tip of the tongue or forward on the cheek) could be treated equally satisfactorily by radiation, surgical excision or destruction by electrocoagulation.

In the more advanced growths, commonly seen, it was the majority opinion that a combination of radiation and surgery or electrosurgery offers best results for the primary growth.

The majority of the committee favored gold seed implantation rather than surface application of heavily filtered radium. Some members felt very strongly, however, that in locations where technically feasible (under the tongue, on the jaw, etc.) the latter method yields superior results with much less painful reaction and less danger of bone necrosis, etc.

Routine biopsy should be done.

Metastases must be assumed in practically all of these lesions. Routine intensive radiation of the neck should be carried out. Some disagreement arose as to surgical dissection of the neck. If carried out it must be a much more extensive and formidable dissection than that commonly required in the case of the lip. (See Skin and Mouth Tumors Report.)

The prognosis for cure in early lesions is fair, in moderately advanced lesions poor, and in advanced lesions with multiple palpable metastases virtually hopeless.

Pharyngeal and Tonsillar Malignancies.—The majority favored preliminary radiation to the sides of the neck before applying radium locally in these lesions. The majority favored a combination of gold seeds and surface applications of heavily filtered radium in treating the primary lesions in these cases. The prognosis for cure in either lymphosarcoma or carcinoma is extremely poor.

LARYNGEAL MALIGNANCIES

Intrinsic Malignancies.—It was practically a unanimous opinion that surgery (laryngectomy, laryngofissure) offers the best chance of cure in intrinsic malignancies of the larynx.

Extrinsic Malignancies.—In extrinsic malignancies the majority believed that radiation offers a better chance of cure than surgery, and far the greatest palliation.

Chest Malignancies.—Only two cases of five-year cures of primary carcinoma of the lung had been seen from radiation therapy. Practically everyone had seen definite palliative results from radiation therapy in primary carcinoma of the lung, certainly showing this to be of distinct value. Most of the cases had been treated by high voltage x-ray alone, although in a number of instances attempts had been made to apply radium directly through the bronchus. (For details of pathology of lung tumors see report of Chest Tumors Committee.) It is highly desirable that biopsy be obtained through the bronchoscope before treatment is undertaken, whenever this is possible, but the majority of the committee agreed that when biopsy is not feasible it is proper to radiate on clinical diagnosis.

BRAIN AND SPINAL CORD

Practically everyone had seen definite palliative results from radiation treatment of brain and spinal cord lesions. The palliative results were obtained chiefly in the treatment of pituitary adenoma, medulloblastoma, and glioma. The percentage of palliation varied from 20 to 60 per cent. Six men reported that they had obtained definite five-year cures in the above types of lesions. High voltage x-ray therapy was used practically exclusively. The recommendation was strongly urged by some members, especially experienced in the treatment of central nervous system tumors, that except in rare selected cases (*e. g.*, certain pituitary adenomas) brain and cord tumors should not be radiated except after open operation and expert pathological examination. (See report of Nervous System Tumors Committee.)

GASTRO-INTESTINAL

Esophagus and Stomach and Intestinal.—In the lesions of these organs radiation therapy was not considered to be of a great deal of value. Palliative effects, as relief from pain and retardation of the growth, had been seen in the esophagus by seven of the men reporting. A few thought they had seen some palliation in carcinomas of the large bowel. Practically no benefit had been noted in stomach malignancies except in one lymphosarcoma case. Only three cases of five-year arrests were reported in the entire group.

(To Be Continued)

STATE MEDICAL ASSOCIATIONS

This department contains official notices, reports of county society proceedings and other information having to do with the state associations and their component county societies. The copy for the department is edited by the state association secretaries, to whom communications for this department should be sent. Rosters of state association officers and committees and of component county societies and affiliated organizations, are printed in the directories noted under Miscellany, on the front cover index.

CALIFORNIA MEDICAL ASSOCIATION

JOSEPH M. KING...President
GEORGE G. REINLE..President-Elect
EMMA W. POPE.......................................Secretary-Treasurer

OFFICIAL NOTICES

Next Council Meeting.—The date of the next meeting of the Council has been set for January 21. The meeting will be held in the offices of the Association, 2004 Four Fifty Sutter Street, San Francisco.

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Clinical and Research Prize Contest.—The customary clinical and research prize contest has been authorized, and the usual prize award will be made to the successful contestants at the annual session of the California Medical Association, to be held at Del Monte, April 24-27, 1933.

Any member interested in the rules governing this contest may secure copy of same by application to the state office, 450 Sutter Street, San Francisco.

COMPONENT COUNTY MEDICAL SOCIETIES

CONTRA COSTA COUNTY

The November meeting of the Contra Costa County Medical Society was held Tuesday evening, November 15, at the nurses' home of the County Hospital, Martinez.

The meeting was called to order by the president, Dr. S. N. Weil of Rodeo, at 8:50 o'clock.

The application for membership of Dr. John G. Crafts of Brentwood was presented. Motion that he be accepted was made by Dr. William Rowell, seconded by Doctor Sweetser, and passed unanimously by the society.

Numerous communications were presented by the secretary, brought to the attention of the members, and placed on file. The report of the Committee on Public Relations of the California Medical Association, relative to proposed means of handling the health insurance problem, was read in full by Doctor Weil. This subject ushered in a lengthy and animated discussion by the various members, bearing evidence of how important a subject this is and how interested the members are. Doctor Weil asked everyone to consider it deeply, and stated that it would be introduced again for further discussion, with recommendations from the members at that time.

Doctor Weil asked whether it was the wish of the members that we follow the custom of past years and have a party for the December meeting. All seemed in favor, as the unanimous vote to that effect on the motion made by Doctor McCullough, seconded by Doctor Ford proved. Doctor Weil appointed the following committee to arrange for the social meeting: Doctors Harry Ford (chairman), Kaho Daily, and Stauffer.

The annual reports of the secretary and treasurer were read by the secretary. Dr. U. S. Abbott made a motion that they be accepted and a vote of thanks be accorded the secretary for her work of the past year. The motion was seconded by Doctor McCullough, and carried.

Apropos of the report of the Committee on Public Relations a motion was made, seconded, and carried that the secretary write the California Medical Association for any further information which they might have on the subject.

A motion-picture film on "Spinal Anesthesia" was shown by Doctor Fitzpatrick, who very kindly brought his projector for that purpose. The film was supplied by the Metz Company. This was an excellent demonstration of the technique of spinal anesthesia.

After election of officers for 1933 the meeting adjourned at ten o'clock. The following were elected to office unanimously: President, L. H. Fraser of Richmond; vice-president, M. L. Stauffer of Pittsburg; secretary-treasurer, Clara H. Spalding of Richmond; censor, Harry Ford of Richmond; delegate, U. S. Abbott of Richmond; and alternate, S. N. Weil of Rodeo.

Nineteen members attended the meeting: Doctors Weil, J. B. Spalding, Marks, Sweetser, U. S. Abbott, Stauffer, Edmeads, William Powell, Ford, Cunningham, Daily, Church, Rowell, Leggo, McCullough, Beard, Fitzpatrick, Morken, and Clara Spalding.

CLARA H. SPALDING, *Secretary.*

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MARIN COUNTY

The regular meeting of the Marin County Medical Society was held on September 22 at the regular meeting place, the City Hall in San Rafael.

Dr. Frank W. Lowe of San Francisco talked on *Fractures, With Special Reference to Those of the Femur, Shoulder, and Elbow.* This paper was illustrated with a large number of lantern slides and several reels of motion pictures. About twenty members attended this meeting.

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On October 27 the regular meeting of the Marin County Medical Society was held in the City Hall in San Rafael. About twenty members were in attendance. The guest speaker of the evening was Dr. Henry A. Stephenson of San Francisco, who spoke on *Bleeding in Obstetrical Cases.* General discussion followed. The papers by Doctor Lowe and Doctor Stephenson were among the most interesting papers we have had this year.

The annual meeting, held on December 1, was a business meeting, with nomination of officers for the coming year. Dr. Walter M. Dickie, director of the Department of Public Relations of the California Medical Association, spoke on *Medical Economics and the Health Insurance Plan.*

L. L. ROBINSON, *Secretary.*

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ORANGE COUNTY

Members of the Orange County Medical Association held their regular monthly meeting on Tuesday, November 1, in the staff room of St. Joseph Hospital of Orange. Dr. J. L. Maroon, president, called the meeting to order promptly at eight o'clock with approximately sixty members and guests present.

A short report was made by the chairman of the Committee on Executive Legislation. Several letters of interest were read by the secretary, including communications from the secretary of the Industrial Accident Section of the Los Angeles County Medical Association concerning x-ray fee schedules; the Orange Belt Funeral Directors' Association; a medical study of the State Committee on Public Relations, as adopted by the Council of the California Medical Association at its meeting held in Los Angeles on September 24, 1932; copies of form notices approved by the Council for the explanation that x-ray films are the property of the physician and that the fee paid by the patient is for diagnosis only; and copies of a resolution of the board of trustees of the Barlow Medical Library Association proposing transfer of that library to the Los Angeles County Medical Association. After some discussion it was moved by Doctor Johnston and seconded by Doctor Burlew that the Orange County Medical Association confirm this action. Motion was unanimously carried.

A proposal for a monthly publication of the *Bulletin of the Orange County Medical Association* was made, and after detailed discussion by many members it was moved by Wallace and seconded by Curtiss that the bulletin be continued provided that there will be no expense to the association. This was unanimously carried.

It was moved by Johnston, seconded by Wallace, that the society ask the supervisors to provide a survey of all health organizations within the county, such survey to be made by a United States Government expert without expense to the medical society. Motion was unanimously passed.

The first reading on the application of Dr. Florence A. Brown for membership on a transfer from Fresno County was heard.

The scientific program of the evening consisted of a symposium on heart disease, with Dr. Milo K. Tedstrom as chairman. The papers as given on this subject were extremely interesting, and were presented in a clear-cut and practical manner, and were all illustrated by lantern slides. They were as follows: *Heart Disease—Its Present Status in the United States* by John C. Ruddock of Los Angeles; *Rheumatic Heart Disease* by R. Manning Clarke of Los Angeles; *Common Cardiac Arrhythmias, Their Recognition and Significance* by Richmond Ware of Los Angeles.

Following presentation of this program the meeting adjourned and a buffet lunch was served.

Harry G. Huffman, *Secretary.*

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PLACER COUNTY

The annual meeting of the Placer County Medical Society was held in the schoolroom of the children's building at the Weimar Sanatorium, Weimar, Saturday evening, November 5, President Robert H. Eveleth, presiding.

There were present the following members and visitors:

Members—W. M. Miller, C. C. Briner, Monica Stoy Briner, Richard O. Schofield, D. M. Kindopp, L. B. Barnes, Robert A. Peers, Mildred E. Thoren, Paul D. Barnes, J. Gordon Mackay, and Max Dunievitz.

Visitors—Doctors Radford, Crossen, Atkinson, Flatley, and Gerke of Weimar; Doctor Vinks of Lincoln; Doctors McCullough, Hale, Pulford, Wolford, Kanner, Cook, Bell, Beach, and McNeil of Sacramento; and Mr. Thoren of Weimar.

The following applications for membership were read: Doctors Adrian F. Crossen, Michael F. Flatley and Dr. Edward B. Radford of Weimar. The secretary stated that they had been reported on favorably by the secretary of the California Medical Association. They were, on motion duly made and seconded, unanimously elected to membership. The secretary also reported the application for membership of Dr. Ray C. Atkinson, whose application had also been approved by the secretary of the California Medical Association. Doctor Atkinson not having resided in the county six months, the consideration of his application was delayed until the January meeting.

Resolutions on the death of the late Doctor Durand, past president of the Placer County Medical Society, were presented by Dr. Mildred E. Thoren and read by the secretary. On motion, duly seconded, the resolutions were adopted and ordered spread upon the minutes and a copy sent to Mrs. Durand.

This being the annual meeting, following the disposal of routine business the election of officers for 1933 was held, resulting in the following elections: President, L. B. Barnes of Newcastle; vice-president, Richard O. Schofield of Hobart Mills; secretary-treasurer, Robert A. Peers, Colfax; delegate to state society, William M. Miller of Auburn; alternate, C. E. Lewis of Auburn.

The dues for 1933 were set at $12.50 instead of $11.50 as formerly. The increase was made in order to provide funds for an increased number of meetings. With an increased number of meetings, it is hoped that members of the county unit will present papers and case reports in addition to the literary program provided by outside speakers.

There being no further business President Barnes called upon Dr. D. Schuyler Pulford of Sacramento, who addressed the society on *Newer Developments, Diagnosis and Treatment of Cancer.* In emphasizing some of the newer developments in the diagnosis, treatment and prognosis of cancer, Doctor Pulford called attention to the increasing frequency of the recognition of cancer and deaths from cancer and that people were coming with very early lesions so that today from 10 to 50 per cent were being cured. The organization and program of the California State Cancer Commission were outlined.

The initial policy started in 1931 as follows:

1. To conduct a comprehensive survey of the field of cancer to determine for the various types of cancer the best accepted minimum requirements for diagnosis and treatment.

2. To collect and make this data available to every doctor in the state.

Reports from several committees were already reported and published in California and Western Medicine, where notes on the activities of the California State Cancer Commission are being published each month.

All doctors were urged to read these reports in the Journal. It was recommended that each county society and hospital subscribe to the *American Journal of Cancer,* where abstracts of the world's literature on cancer were published, as well as many original articles. Four or five volumes of this journal are being put out each year for the nominal charge of $5.

It was not thought advisable to start a drive to further educate the public to bring their cancers to the doctors earlier until the doctors themselves were better educated as to the best present methods known in the diagnosis and treatment of cancer. It should be borne in mind that the above two additional programs were aimed to shorten the time from the patient's appearance at a doctor's office until the best diagnostic and therapeutic procedures are started.

From the standpoint of tissue pathology as an aid in better diagnosis and treatment and as a possible aid to estimating prognosis, a plea was made for more biopsies and operating room fresh tissue examination. This fresh tissue work is necessary first, to decide if the suspected lesion is really malignant, and second, to help outline treatment after the tumor's grade of malignancy is known, correlating this with the other important clinical findings before completing the operation or outlining a course of further treatment, and finally as one aid in estimating prognosis.

Fresh tissue examinations during operations save many needless mutilating operations and prevent many deaths by showing the necessity of an immediate radical operation in curable, early malignancies when delay might mean spread of the disease to an incurable stage.

A series of lantern slides were shown to illustrate these points, with special emphasis on the degree of cellular differentiation as an index to a grade of malignancy of tumors.

Doctor Pulford's address was discussed by Doctors Orrin Cook, Wolford, Kanner, Bell and Hale of Sacramento, and Doctors Peers and L. B. Barnes of Placer County.

Following the close of the discussion, refreshments were served by Doctor Thoren and members of her staff.

Robert A. Peers, *Secretary.*

SAN DIEGO COUNTY

The officers for 1933 were elected at the meeting on November 8. Dr. C. L. Stealy was elected president and Dr. Ross Carter, vice-president. The secretary, Dr. William H. Geistweit, Jr., and the treasurer, Dr. Hal G. Holder were reëlected.

The program at this meeting was in charge of the City and County Health Department. Representatives of each of the bureaus in the department discussed the work of the bureau and the relation of their work to the medical profession. The speakers were: Mr. G. C. Zuckweiler, chief sanitarian; Mrs. E. S. Dunlop of the nursing division; Dr. H. F. Roberts, meat inspector; Dr. F. J. Bolender, dairy inspector; and Mr. J. C. Baker, food inspector. Dr. Olive B. Cordua, director of the Division of Child Hygiene, presented the results of an extensive investigation on comparative rates on Mexican infant and maternal mortality in Diego County. Mr. George Sieverling, secretary of the health department, discussed immunization for diphtheria and smallpox, demonstrating the rapid and efficient control of these two diseases in the city and county. Dr. Alex Lesem, city and county health officer, had charge of the meeting. This interesting presentation was a part of the continued policy of the health officer to establish complete understanding and coöperation between the medical profession and the health department in this city and county.

The San Diego Academy of Medicine held their fall meeting on November 3 and 4, and presented Dr. Hans Lisser as their guest speaker. His subjects were: *The Present Status of Organotherapy* and *The Diagnosis and Treatment of the Clinical Syndrome Produced by Excessive or Deficient Secretion from the Suprarenal Medulla and Cortex.*

The academy announces that on December 6 Dr. Frank Lahey of Boston will speak on *Some Phases of Thyroid Surgery* and that Dr. E. D. Plass of the University of Iowa will lecture on *The Toxemias of Pregnancy* on December 8 and 9.

At the October meeting of the San Diego County Medical Society, Dr. Verne C. Hunt of Los Angeles spoke on *Recurrent Peptic Ulcer.* This was one of the best attended meetings and one of the most valuable discussions of the year.

The annual medical economics meeting will be held on December 13. The program will include Doctor Lesem on the *Responsibility of the Private Physician in Immunization;* Doctor Holder, *Part-Pay Clinics and Centralized Social Service;* Doctor St. Sure, *The Official Physicians' Directory;* Doctor Kinney, *Recent Development of Health Insurance;* and Doctor Stealy, *The Relation of Police Ambulance Service to the Private Physician.*

Lyell C. Kinney.

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SAN JOAQUIN COUNTY

The stated meeting of the San Joaquin County Medical Society was held on Thursday evening, October 6, at 8:30 o'clock in the Medico-Dental clubrooms, 242 North Sutter Street, Stockton. The meeting was called to order by President George H. Sanderson.

Doctor Sippy of the San Joaquin County local health district reported to the City Council the proposal that the requirements for the sale of cream in Stockton be on the same basis as those for the sale of milk, that is, that cream be produced from tuberculin-tested cows.

It was moved by Dr. B. J. Powell and seconded by Dr. S. W. R. Langdon that the board of directors meet to prepare a resolution to endorse the cream inspection ordinance. Duly carried.

Dr. Dewey R. Powell gave a clear exposition of the purposes of the local Merchant's Alliance and the reasons for supporting it.

In connection with the convention of the Northern District Medical Association it was moved and carried that a committee be appointed to provide entertainment for visiting members and to secure necessary funds for such entertainment. President Sanderson named Doctors Barnes, B. J. Powell, Dozier, and Dewey Powell as that committee.

Doctor Chapman reported on the progress of a movement to establish a local hospital association. In view of the desirability of such an association, Doctor Kaplan, seconded by Dr. Barton Powell, moved that a committee be appointed to arrange for a joint special meeting of the medical society and the dental society to consider the question. Carried. President Sanderson appointed Doctors Chapman, Kaplan, and Gallegos.

Resolutions of respect to the families of our deceased members, Dr. E. A. Arthur and Dr. H. H. Hammond, were authorized and referred to the standing Committee on History and Obituaries.

There being no further business the scientific program, a symposium on syphilis, was taken up.

The first paper, *Visceral and Systemic Syphilis,* was read by Dr. Gordon E. Hein of the University of California.

Doctor Hein made a very interesting report on thirty-six patients who had died with a known diagnosis of syphilis. He especially emphasized the many cases which at autopsy show lesions of syphilis that have never been diagnosed because they have been overshadowed by other diseased conditions. Often the syphilitic disease is not the cause of death.

He advocated more frequent treatment of syphilis with the older methods, such as inunctions of mercury rather than by constant use of salvarsen or its modification. Treatment should aim at control of the disease rather than sterilization.

Chemotherapy of Syphilis was the title of the paper read by Dr. Chauncey D. Leake. He said that the intensive treatment of syphilis is hazardous and must be weighed against the comparative danger to the patient from the disease itself. He urged that diagnosis be based on the patient's whole picture rather than on the one laboratory test as to whether a Wassermann is negative or positive.

The judicious treatment with potassium iodid and with mercury inunctions to control the symptoms was strongly urged. Doctor Leake said that it is impossible to sterilize a syphilitic individual by intensive treatment. Rather it is important to promote better bodily reaction to the disease. Seek control by clinical symptoms rather than by Wassermann reaction.

Dr. L. Taussig read a paper on *Cutaneous Manifestations of Syphilis.* He emphasized the importance of the skin signs in these patients. Most cases of syphilis are first diagnosed by these signs and, consequently, are handled by the skin specialists.

At the close of the meeting refreshments were served. C. A. Broaddus, *Secretary.*

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SANTA BARBARA COUNTY

The regular meeting of the Santa Barbara County Medical Society was held Monday evening, November 14, with Doctor Koefod presiding.

Dr. H. Eder presented a paper on *Preventorium Care,* which was discussed by Dr. Rodney Atsatt.

President Koefod introduced Dr. Chauncey Leake, professor of pharmacology, University of California, who gave a most fascinating and interesting talk on *Recent Advances in Pharmacology, with Special Reference to Central Nervous System Depressants.*

The paper was discussed and questions asked by Doctors Brown, Thorner, Geyman, Pierce, Nuzum, Wills, Hunt, Koefod, Wilcox, and Shelton.

The meeting then went into executive session.

A communication from Edyth Tate Thompson, addressed to the president, on the tuberculosis situation in Santa Barbara was read, and upon a motion of Doctor Freidell, seconded by Doctor Wilcox, the president was to appoint a committee of five to investigate. William H. Eaton, *Secretary.*

SOLANO COUNTY

On October 28 at the Casa de Vallejo Hotel at Vallejo, Doctors W. W. Boardman and P. K. Gilman of San Francisco addressed the Solano County Medical Society on the following subject: *The Acute Abdomen.* The splendid program was enjoyed by all those present, including physicians from the surrounding counties, and also by medical officers from the United States Naval Hospital, Mare Island.

A dinner preceded the session.

Edward F. Mullaly, *Secretary.*

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SONOMA COUNTY

The Sonoma County Medical Society held its regular monthly meeting on November 10 at the Occidental Hotel, Santa Rosa, and after transacting routine business the secretary gave a report of the meeting of the Committee on Public Relations held in San Francisco.

The following officers were elected for the year 1933: President, Mark L. Lewis of Petaluma; vice-president, Ernest Vieira of Sebastopol; treasurer, C. M. Carlson of Santa Rosa; secretary, W. C. Shipley of Santa Rosa.

Dr. Chester Marsh was reëlected to the Board of Censors to serve until December, 1935.

Dr. J. Leslie Spear, the retiring president, was elected delegate to the state society, and Dr. J. W. Seawell of Healdsburg was elected alternate.

The newly elected president, Dr. M. L. Lewis, will make announcement of committee appointments at the December meeting.

The application for membership of Dr. Leon Lewis of Eldridge was accepted and he was elected to membership.

W. C. Shipley, *Secretary.*

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TULARE COUNTY

The first meeting of the fall term, held on October 23, was preceded by a dinner at Motley's Café in Visalia.

The meeting was called to order by Doctor Weiss in the absence of the president, Doctor Ginsburg.

Doctor Zumwalt reported the transactions of the Medical Milk Commission, which has coöperated with the Rocky Hill dairy in Exeter in the establishment of a certified dairy. The dairy is actively producing and distributing certified milk, and the members of the Tulare County Medical Society are urged to visit this ideal milk plant. The members of the Medical Milk Commission are Doctors Zumwalt (chairman), Fowler, Weiss; Dr. W. L. Edwards, veterinarian; and Mr. Robert Stanford, laboratory clinician.

Dr. Norman N. Epstein, dermatologist from San Francisco, was the guest speaker of the evening. He presented a formal paper on the subject of the fever treatment of central nervous system syphilis. This related to some recent personal research work with diathermy as the thermal agent, and was illustrated with slides.

Doctor Epstein very generously discussed the problems involved in the treatment of syphilis in his clinic, ably outlining the actual practical therapeutic measures with an evaluation of the drugs utilized. The entire program met with hearty response, and a unanimous vote of thanks was extended Doctor Epstein.

The following members were in attendance: Doctors Ginsburg, Weiss, Zumwalt, Hicks, Furness, Seiberth, Guido, Tourtillot, Kohn, Preston, Fowler, Goesbeck, E. C. Bond, Betts, and Brigham. Doctors Fillmore, Watke, Bridgman, Mitchell and Miller were present as guests of the society.

Karl F. Weiss, *Secretary.*

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YUBA-SUTTER COUNTIES

The Yuba-Sutter County Medical Society met on November 8, with a full attendance.

The following amendment was made to the Constitution and By-Laws:

That the date of the regular annual meeting be changed from the second Tuesday in May of each year to the second Tuesday or the last meeting in December of each year that the election of officers for the ensuing year shall be held at this meeting and that such new officers as are elected shall assume their duties in the following January.

This change in the constitution was made by a unanimous vote of the members present and will go into effect with the end of this year.

The following motion was made and unanimously carried:

That any member of this society who has been a continuous member for forty years or over shall become an honorary member with all the privileges of an active member, but shall not be held accountable for any more dues. This motion was carried without a dissenting vote.

Dr. Fred H. Kruse gave the society a talk on *Functional Disturbances of the Colon,* which was illustrated by lantern slides. This was greatly appreciated by the society, and a vote of thanks was extended to Doctor Kruse.

F. W. Didier, *Secretary.*

CHANGES IN MEMBERSHIP

New Members (7)

Los Angeles County.— Helen Green Bulpitt, Paul Adams Bulpitt, Frederick George Gruber, J. Edward Miller.

San Diego County.—Joseph Jerome O'Hara.

San Francisco County.—Fred Carl Schreiber, Ralph Edwin Scovel.

Transfers (12)

Lloyd C. Austin, from Sacramento to Santa Clara County.

Henry C. Barron, from Los Angeles to San Diego.

Salvatore Cieri, from San Francisco to Alameda County.

Ruggles A. Cushman, from Orange to Mendocino County.

William L. Denton, from Kern to San Bernardino County.

Lucas W. Empey, from Santa Clara to Placer County.

F. Edwyn Garfinkle, from Marin to San Francisco.

Robert L. Hamilton, from Tuolumne to Yuba-Sutter County.

Wrenshall A. Oliver, from San Francisco to San Mateo.

Archie M. Roberts, from San Francisco to Los Angeles County.

Lorenz W. Ruddy, from San Francisco to Sacramento County.

B. H. Wardrip, from Lassen-Plumas to Santa Clara County.

In Memoriam

Clark, William Amie. Died in Rochester, October 27, 1932, age 61 years. Graduate of Cooper Medical College, San Francisco, 1892. Licensed in California, 1893. Doctor Clark was a member of the Alameda County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

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Kern, William B. Died in Los Angeles, October 14, 1932, age 65 years. Graduate of Missouri Medical College, St. Louis, 1887, and St. Louis College of Physicians and Surgeons, 1900. Licensed in California, 1893. Doctor Kern was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

Voisard, Francis Xavier. Died in Sacramento, November 5, 1932. Graduate of University of Montreal Faculty of Medicine, Quebec, 1891. Licensed in California, 1891. Doctor Voisard was a member of the Sacramento Society for Medical Improvement, the California Medical Association, and a Fellow of the American Medical Association.

OBITUARIES

William A. Clark

1871-1932

Dr. William A. Clark died on October 27, 1932, at Rochester, Minnesota, after a gallant fight for his life, following a partial gastrectomy for carcinoma of the stomach. He was born in Michigan sixty-one years ago, but he has lived over fifty years in California.

Doctor Clark graduated from Cooper Medical College in 1892, and after a year as ship physician on steamers to the Orient was appointed medical director of the Alameda County Hospital, which office he held for seventeen years. When Doctor Clark took charge of the hospital it was a place of horror, but his skillful administration soon brought the institution recognition throughout the West for thorough scientific hospital practice.

In 1910 Doctor Clark entered the private practice of medicine and surgery. Here he displaced a rare keenness of judgment, versatility of skill, and tireless devotion to the welfare of his patients. He was for a time consultant and later chief of the gynecological staff of the Samuel Merritt Hospital in Oakland. He was a member of the American College of Surgeons, the California Academy of Medicine, the Alameda County Medical Society, and the state and national associations. He was a Master Mason and Past Master of Mount Eden Lodge.

Apart from Doctor Clark's earnest devotion to the practice of his profession, his hobbies were color photography and the rendition of good music, especially on the pipe organ. He earned a nation-wide reputation for his autochromes, having compiled a library covering most of the national parks of the United States. His work was recognized by the National Park Service and the National Geographic Society to the extent that in 1930 he was invited to join a party including members of both organizations and of the Congress of the United States to visit and study the everglades of Florida, with a view of creating a new national park.

His musical library covered the best of operatic and classical compositions, and his pipe organ has been considered one of the finest household instruments in the country.

With the passing of Doctor Clark the medical profession of Alameda County and the State of California mourns the loss of a great physician, a most kindly and humanitarian spirit, whose helpfulness, particularly to the younger man in medicine, has long been recognized.

He is survived by two children—a son, Walter H. Clark of Oakland, and a daughter, Mrs. L. J. Thayer of Wakefield, Massachusetts.

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Susan J. Fenton

1847-1932

Dr. Susan J. Fenton, one of our retired members and a pioneer woman in the field of medicine, died at the age of eighty-five on October 26, after practicing medicine for forty-three years. In addition to the prominent part she played as a physician, she was an outstanding figure in philanthropic work in the East Bay for more than a quarter of a century. The Susan Fenton Home of the Associated Charities, of which she was one of the founders, was named in her honor. She was born in Pennsylvania and came to California in 1874. She was a graduate of the Hahnemann Medical College of the Pacific in 1889 and later came to the East Bay, where she practiced for thirty-six years, during five of which she was resident physician at Fabiola Hospital.

Doctor Fenton has been connected with the Associated Charities since 1906 and she played a leading rôle in its development, serving as president for five years and retiring from that office in 1921 to become a member of the board of directors, in which capacity she was active up until the time of her death. She also took an active part in the work at the East Oakland Girls' Rescue Home and was also a member of the board of directors of this institution at the time of her death. At some time or other during her life Doctor Fenton has been a member of the board of directors in the majority of charitable organizations in the city of Oakland.

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Burt S. Stevens

1874-1932

Whereas, Burt S. Stevens, a physician of worth, note and character, recently passed to the Great Beyond; and

Whereas, Dr. Burt S. Stevens was known as a philanthropist of outstanding note; and

Whereas, Dr. Burt S. Stevens, a member of the California State Board of Medical Examiners for the past year, by his magnetic personality and consideration, endeared himself into the hearts of the members of the board; now, therefore, be it

Resolved, That the name of Dr. Burt S. Stevens be inscribed in the records of the California Board of Medical Examiners as having served his state and profession in a noble manner, and that this resolution be so recorded; and be it further

Resolved, In acknowledgment of our great loss that the heartfelt sympathy of the members of this board be extended to his bereaved widow, and that a copy of this resolution be forwarded to her; and be it further

Resolved, That a copy of this resolution be forwarded to the official journal of the California State Medical Association; and be it further

Resolved, That when this meeting adjourns, it shall do so in memory of his passing.*

THE WOMAN'S AUXILIARY TO THE CALIFORNIA MEDICAL ASSOCIATION†

Official Notices

Mrs. James F. Percy Succeeds Mrs. Walter Jackson Freeman to Presidency of National Auxiliary.—It was with sorrow that the auxiliary to the California Medical Association learned of the death on October 27 of the national president, Mrs. Walter Jackson Freeman.

Few women have given so unselfishly of themselves to any cause as Mrs. Freeman gave to the auxiliary. She was a woman of highest ideals, and was especially qualified for the honor bestowed upon her.

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* Resolution passed by the Board of Medical Examiners, assembled in regular session, October 17, 1932.

† As county auxiliaries to the Woman's Auxiliary to the California Medical Association are formed, the names of their officers should be forwarded to Mrs. Clifford A. Wright, chairman of the Publicity and Publications Committee, 454 South Irving Boulevard, Los Angeles. Brief reports of county auxiliary meetings will be welcomed by Mrs. Wright and must be sent to her before publication takes place in this column. For lists of state and county officers, see advertising page 6. The Council of the California Medical Association has instructed the editors to allocate one page in every issue for Woman's Auxiliary notes.

She has woven into our fabric of service a somber background of courage, made beautiful by golden threads of practical idealism and rosy tints of great vision.

As first vice-president of the national auxiliary, Mrs. James F. Percy of Los Angeles succeeds Mrs. Freeman.

Mrs. Percy is a past president of the auxiliary to the California Medical Association, also a past president of the auxiliary to the Los Angeles County Medical Association. She has been a member of the national board for the past three years, and has played an important part in the organization of the western states. We are proud of her accomplishments, and pledge to her our loyal support.

County Auxiliaries

Alameda County.—The members of the Woman's Auxiliary of Alameda County were hostesses to their husbands at a dinner party held on October 19 at the Woman's Athletic Club, Oakland. It was a very delightful affair, with about 170 in attendance. Mrs. Dorothy Dukes Dimm, a noted cellist, daughter of President-elect Mrs. Charles A. Dukes, favored the group with several cello selections. Mr. Kenneth Spencer, colored baritone, was the soloist for the evening. Mrs. Don D. Weaver, a member of the auxiliary, gave two original humorous readings, which delighted all. The doctors were surprised to see their own pictures, taken during babyhood days, thrown on the screen. This was the first gathering of its kind that the auxiliary has sponsored, and they plan that it shall be an annual affair.

* * *

Los Angeles County. — The Los Angeles County Medical Auxiliary met on Thursday, October 20, in Severance Hall at the Friday Morning Club, Mrs. Philip Schuyler Doane presiding. Stanley K. Cochems was the speaker of the afternoon, discussing the problem of giving publicity to professional men, yet keeping it within the medical ethics and without the appearance of advertising. Miss Helen Wilcox, executive secretary of the Washington State Public Health League, spoke on the twelve years' work of the organization in overcoming cults. Mrs. John V. Barrow gave a five-minute talk on current events in medicine. The Nominating Committee reported the following ticket to be voted on in December: President, Mrs. A. Bennette Cooke; first vice-president, Mrs. Paul A. Quaintance, Los Angeles; second vice-president, Mrs. James E. Houloose, Long Beach; secretary-treasurer, Mrs. P. O. Sundin, Los Angeles; directors, Mrs. A. Brockway of Los Angeles and Mrs. Harry J. Wiley of Huntington Park.

Tea was served, with Mrs. E. P. Smart of San Fernando and Mrs. Henry Judson and Mrs. E. J. Morrison of Santa Monica serving as hostesses.

* * *

Orange County.—On November 1, instead of the regular meeting of the Woman's Auxiliary to the Orange County Medical Association, the members made a very interesting trip to the Pacific Colony at Spadra. Doctor Cutter took the members on a tour of inspection of the workshops and wards. The buildings were immaculate and the grounds beautifully kept. The hospital is a well-kept unit of the institution. Later Dr. and Mrs. Cutter served tea in their home.

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Riverside County.—Organization of the Woman's Auxiliary to the Riverside County Medical Society took place on Monday evening at a meeting held at the home of Mrs. A. W. Walker on Rubidoux Drive, twenty-six women being present for the meeting. The purpose of the auxiliary is primarily to provide a means of fellowship and coöperative endeavor for women members of physicians' families.

Membership in the local auxiliary, which is also to be affiliated with the state and national auxiliaries, is open to all women whose husbands are members of the Riverside County Medical Society. The auxiliary plans to hold monthly meetings.

Officers elected at the opening meeting of the auxiliary follow:

President, Mrs. A. W. Walker; first vice-president, Mrs. Allen Bramkamp; second vice-president, Mrs. Jesse N. Roe; recording secretary, Mrs. G. W. Coon; corresponding secretary, Mrs. Hervey N. Faris; treasurer, Mrs. C. R. Geith. Directors were chosen as follows: Mrs. Gray of Indio, Mrs. Clark of Hemet, Mrs. R. R. Root of Corona, Mrs. West of Beaumont, Mrs. Wickman of Perris, and Mrs. W. E. Gardner of Riverside.

At the close of the business session refreshments were served by Mrs. Walker, assisted by Mrs. Bon O. Adams and Mrs. C. R. Geith, who were co-hostesses for the occasion.

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Sacramento County.—"The Relation of the Hospital to the Public" was the subject of a talk which Mr. R. D. Brisbane, superintendent of the Sutter Hospital, gave at the November meeting of the Woman's Auxiliary to the Sacramento Society for Medical Improvement. The meeting was held at the Tuesday Clubhouse.

Mrs. Eugene Pitts, chairman of Social Welfare Agencies, announced plans to sew for the Red Cross. The members will meet at the nurses' home of the Sacramento Hospital on November 17 from 10 a. m. to 4 p. m. to make garments for the needy.

The next meeting will be a dinner dance on December 17 at the Del Paso Country Club to which the husbands of the members will be guests. Mrs. F. N. Scatena, president, has named Mrs. J. Howard Hall as general chairman for this occasion.

* * *

San Diego County.—Mrs. F. E. Coulter, president of the Woman's Auxiliary to the California Medical Association, honored the Woman's Auxiliary to the San Diego County Medical Society with a visit at the regular meeting, November 8. A large and enthusiastic group was assembled for tea at the home of Mrs. Elliott G. Colby.

Following the presentation of a group of delightful musical numbers, the president, Mrs. Charles Howard, introduced Mrs. Coulter, Mrs. Currey, and Mrs. Yeagle. The state greetings presented by Mrs. Coulter were of such nature as to be very instructive and inspirational. The value of the Public Relations Committee were stressed. Attention was called to the value of much publicity and to the preservation of material for future reference in a scrap book.

Enthusiasm for auxiliary work of a larger scope was obtained by each member from this personal contact. It is hoped that an opportunity of this type will be presented to the San Diego Auxiliary often.

* * *

Annual Meeting of Los Angeles County Auxiliary.—The annual meeting of the Los Angeles County Auxiliary will be held on December 15 at the Ambassador Hotel in Los Angeles. This is to be a luncheon. Special guests of honor will be Dr. Joseph M. King and Dr. William R. Moloney. Other guests of honor are: Mrs. James F. Percy, the new president of the national organization; Mrs. Philip Schuyler Doane, who is finishing her term of office; Mrs. A. Bennette Cooke, the president-elect; the state officers and county auxiliary presidents. Mrs. O. E. Ghrist is arranging a musical program to be given by Lone Star and Zaruchi Elmassian, with Mrs. Ghrist accompanying. This is the outstanding meeting of the year.

NEVADA STATE MEDICAL ASSOCIATION

O. HOVENDEN, McGill	President
D. A. SMITH, Mina	President-Elect
J. N. VAN METER, Las Vegas	First Vice-President
FLEET H. HARRISON, Minden	Second Vice-President
HORACE J. BROWN	Secretary

TRANSACTIONS OF THE TWENTY-NINTH ANNUAL SESSION OF THE NEVADA STATE MEDICAL ASSOCIATION

First Day's Meetings

The twenty-ninth annual meeting of the Nevada State Medical Association was called to order in Bower's Mansion, Reno, September 23, at 10 a. m. by the president, A. C. Olmsted. The president gave his address, which consisted of a hearty welcome to all those in attendance.

SCIENTIFIC PROGRAM

The scientific program was then taken up and was as follows:

Miley B. Wesson, M. D., San Francisco, read a very interesting paper on *Infection in the Genito-Urinary Tract.* Discussion by J. P. Tuttle, R. A. Bowdle, Horace J. Brown, M. A. Robison, and Miley B. Wesson. Discussion closed by Miley B. Wesson.

J. P. Tuttle, M. D., Reno, read a paper on *Prostatitis and Referred Pain.* Discussion by Miley B. Wesson, B. H. Caples, James T. Watkins, J. N. Van Meter, and J. P. Tuttle. Discussion closed by J. P. Tuttle.

Thomas W. Bath, Reno, read the *Report of the Military Affairs Committee.* Discussion by C. E. Secor, C. A. Dukes, O. Hovenden, E. J. Hund, and D. A. Turner.

(This report is printed as one of the special articles in this issue of California and Western Medicine.)

This completed the scientific session for the day.

BUSINESS SESSION

After a short recess the president called the members to order.

The president called for the *reading of the minutes* of the last annual meeting, which were read and approved.

The *Report of the Delegate to the American Medical Association* was read and approved.

The *Report of the Membership Committee* proposed the names of the following Nevada physicians: G. R. Fortson, Susanville, California; A. W. MacPherson, Sparks; M. Ruth Smernoff, Nevada; J. E. Tillotson, Ely; Dwight Hood, E. J. Hund, J. T. Tuttle, Arden Kimmel, J. Williams, of Reno.

They were elected unanimously. The Membership Committee also reported that Dr. I. S. Egan of Reno had resigned as a member of the association. His resignation was unanimously accepted.

R. A. Bowdle made a short talk in which he stressed the importance of prospective legislation in relation to the medical profession. Thomas W. Bath, J. L. Robinson, E. E. Hamer, and G. R. Smith spoke on the same subject.

M. A. Robison moved that the *Judiciary Committee* be empowered to spend such money as we can afford for the employment of such help as may be needed in drawing of bills of any medical nature and other necessary expenses in order that they may properly present them to the next legislature. Motion seconded by Thomas W. Bath, and carried.

The *Report of the Necrology Committee* included the names of Doctors Dan Coll of Susanville, California; A. Huffaker of Carson City, and W. L. Samuels of Reno. The committee was instructed to draft resolutions for incorporation into the minutes. Copies to be sent to the families of the deceased.

E. E. Hamer made the *Report of the Committee on Public Health and Education.*

Thomas W. Bath introduced the following *Resolution:* (See page 370 for Doctor Bath's full report.)

Whereas, There exists today in the United States a sufficiently large number of civilian hospitals capable of administering to all the surgical and medical needs of ex-veterans, either soldiers or nurses; and that

Whereas, The plan as contemplated by the Veterans' Bureau of continuing the building of hospitals will entail an enormous expense both for construction and maintenance, which expense we believe is unjustifiable and unnecessary; and

Whereas, The present method of hospitalization for soldiers and nurses cannot reach the thousands of acute cases that naturally must arise each year and which, under the circumstances, cannot be sent into the veterans' hospital, thereby placing the entire cost of hospitalization upon the sick or acutely disabled soldier or nurse; and

Whereas, If such moneys as are now being used were used with the directness of purpose toward aiding the medical or surgical needs of the sick or disabled veteran or nurse, if the same were applied to alleviate in his or her own community such needs as arise, the community as an integral part of the United States would be benefited and it is scarcely necessary to add that the well-being of the soldier and his family would be better attended to; now therefore be it

Resolved, That the Nevada State Medical Society in convention here assembled do hereby protest against the present manner of aid rendered by the Veterans' Bureau to sick and disabled ex-soldiers and nurses, and do so for the reason that the same is far from covering the actual necessities in times of acute conditions and, therefore, fails in bringing direct medical or surgical service to the sick or disabled when most urgently needed; that we recommend to the Veterans' Bureau at Washington, to the American Hospital Association, to the American Medical Association the institution of the plan as outlined by the Abner Rude Post 481 of the American Legion of South St. Paul, Minnesota, or the plan as recommended by Dr. H. H. Shoulders of Nashville, Tennessee, as being more effective to minister to the veterans' needs and infinitely less costly to maintain.

Moved by Thomas W. Bath, seconded by John A. Fuller, that the resolution be adopted. Carried.

Election of Officers. — The following officers were elected for the ensuing year: President-elect, D. A. Smith of Mina; first vice-president, J. N. Van Meter of Las Vegas; second vice-president, Fleet H. Harrison of Minden; secretary-treasurer, Horace J. Brown of Reno; trustee for three years, D. A. Turner of Reno; alternate delegate to the American Medical Association for one year, E. E. Hamer of Carson City.

Place of Next Meeting.—J. N. Van Meter on behalf of the Clark County Medical Society invited the association to meet in Las Vegas in 1933. Fleet H. Harrison invited us to meet at Minden. C. E. Secor on behalf of the Elko County Society invited us to meet in Elko. Upon a standing vote being taken, Las Vegas was selected as the place for the next annual meeting.

Honorary Members.—On motion of D. A. Turner, seconded by R. A. Bowdle, the essayists who are not already honorary members were elected to such membership.

There being no further business to come before the association at this time, the meeting was adjourned until 9 a. m. September 24.

Second Day's Meeting

The meeting was called to order at 9:20 a. m. by President Olmsted. The scientific program was continued.

James P. Kerby of Salt Lake City read a paper on *Intravenous Pyelography (Neo-iopax).* Discussion by B. H. Caples, J. P. Tuttle, and Miley B. Wesson. Discussion closed by James P. Kerby.

Leo P. Bell of Woodland, California, read a paper on *The Results of Operative Procedure on Stomach and Duodenum for Cure of Gastric and Duodenal Ulcers.* Discussion by C. A. Dukes and E. L. Gilcreest. Discussion closed by Leo P. Bell.

Charles A. Dukes of Oakland, California, read a paper on *The Treatment of So-Called Inoperable or Incurable Cancers.* Discussion by Leo P. Bell, C. W. West, and A. R. Kilgore. Discussion closed by Charles A. Dukes.

James T. Watkins of San Francisco read a paper on *Fractures of Spine.* Discussion by Miley B. Wesson, R. R. Craig, E. L. Gilcreest, W. F. Holcomb, and R. O. Schofield. Discussion closed by James T. Watkins.

William D. Donoher of Salt Lake City read a paper on *General Consideration of Sinus Diseases.* Discussion by J. L. Robinson, J. A. Fuller, E. L. Creveling, and R. S. Tillotson. Discussion closed by William D. Donoher.

Fuller Bailey of Salt Lake City read a paper on *Functional Diseases of the Intestinal Tract.* Discussion by C. E. Piersall, E. L. Gilcreest, and Charles A. Dukes. Discussion closed by Fuller Bailey.

Edgar L. Gilcreest of San Francisco read a paper on *Undiagnosed Shoulder Lesions and Injuries Due to the Common Syndrome of Rupture, Luxation and Elongation of the Tendon of the Long Head of the Biceps.* Discussion by James T. Watkins, Leo P. Bell, Miley Wesson, and W. F. Holcomb. Discussion closed by Edgar L. Gilcreest.

M. A. Robison of Reno read a paper on *Anesthetics.* Discussion by G. R. Magee, H. W. Sawyer, and A. R. Da Costa. Discussion closed by M. A. Robison.

* * *

Luncheon.—At the conclusion of the noonday lunch at which a number of the ladies were present, the subject of a Woman's Auxiliary was taken up. Charles A. Dukes spoke in favor of such an organization. At the conclusion of his remarks he assumed the position of temporary chairman and called for nominations for temporary officers. Mrs. Arthur J. Hood of Reno was elected temporary president and Mrs. Horace J. Brown of Reno was elected temporary secretary. The men then retired, leaving the ladies to complete the organization.

A. R. Kilgore of San Francisco spoke on the activities of the Cancer Commission of the California Medical Association. W. C. West, seconded by G. L. Servoss, moved that a committee of three be appointed to coöperate with the California Medical Association Commission. Motion carried. The chair announced that he would leave the appointment of this committee to his successor.

Introduction of President-Elect Hovenden.—President A. C. Olmsted introduced the president-elect, O. Hovenden of McGill, and turned over to him the gavel of authority.

Adjournment.—There being no further business the meeting was adjourned.

HORACE J. BROWN, *Secretary-Treasurer.*

* * *

Nevada Members in Attendance.—The following members were in attendance at various times during the meeting:

Horace J. Brown, R. A. Bowdle, H. Earl Belnap, Thomas W. Bath, B. H. Caples, Earle Creveling, R. R. Craig, Fleet H. Harrison, O. Hovenden, J. H. Hastings, A. J. Hood, W. H. Hood, E. E. Hamer, B. H. Harper, A. R. Da Costa, J. A. Fuller, Arden Kimmel, G. R. Magee, Harry W. Sawyer, Arthur Grover.

A. W. Macpherson, Francis J. Morley, A. Miniggio, S. K. Morrison, A. C. Olmsted, E. J. Hund, W. M. Edwards, M. A. Robison, J. L. Robinson, C. E. Piersall, Charles E. Secor, George R. Smith, George L. Servoss, D. A. Smith, J. J. Sullivan, D. A. Turner, J. P. Tuttle, R. S. Tillotson, J. N. Van Meter, C. W. West, M. R. Walker.

Honorary Members and Visitors in Attendance:

Leo P. Bell, W. B. Allen, A. R. Aiker, Fuller B. Bailey, Thomas E. Cooper, Ione M. Chase, Mrs. Etta D. Bishop, W. W. Dillard, Edgar L. Gilcreest, A. R. Kilgore, Kaspar Pischel, C. J. Sallome, W. W. Wiley, H. D. Way, Charles A. Dukes.

W. F. Holcomb, A. Hummel, R. M. Hare, E. Benjamin, C. Johnson, W. D. Donoher, James P. Kerby, K. W. Kinard, K. E. Kathes, Walter Poling, D. B. Peters, Miley B. Wesson, James Watkins, Richard O. Schofield, R. St. Clair.

University Service to the Public.—Announcement has just been made through the *Journal of the American Medical Association* that two members of the University of California Medical School staff have devised a method of preventing blindness in certain cases which result from disease of the thyroid gland.

The men who have developed this latest contribution to humanity are Dr. Howard C. Naffziger, professor of surgery, and Dr. Ottiwell W. Jones, Jr., assistant professor of surgery. The treatment consists of a surgical correction of abnormal muscle changes in the eyes which are induced by trouble in the thyroid gland. This operation has proved so successful that patients who otherwise would certainly lose their sight are saved from blindness.

Dean Langley Porter of the Medical School states that this development is just one example of the contributions which the University makes each year toward the improvement of human welfare. He says, "We usually think of a university as solely an educational institution. Certainly it is primarily this, but in the practical fields of agriculture, engineering and medicine, particularly the importance of its contributions to knowledge through research and experiment, may far exceed the importance of its educational work. —*University of California Clip Sheet.*

Vaccines in Clinical Medicine.—Keilty considers that the position of vaccines, theoretically, experimentally, and clinically, is today one of imbalance. There has been too much accomplished in the past to disregard them entirely, and a middle ground is an acceptable attitude. A vaccine is defined as a vaccinogenic solution having the power of producing specific antibodies *in vivo.* Vaccines prepared from a multiple flora are selected by the author exclusively on their quantitative appearance in culture and their allergic cutaneous reactions. Vaccines must start out with the study and isolation of specific etiologic organisms. They must be prepared in such a way that the vaccinogenic factor is as nearly unaltered as possible, but no solution should be used in which a viable organism has any chance of becoming virulent. The present trend in dosage is to start with small amounts, 0.1 cubic centimeter increased in 0.1 cubic centimeter stages and given every other day over a long period. Each individual case is an entity and for this reason the best results are obtained after experience. In the preparation of a vaccine, one should pay no attention to the bacterial count but make heavy suspensions and vary the dosage according to general reactions. The desirability of general reactions for immunity-producing purposes is stressed.—*Journal of Laboratory and Clinical Medicine.*

Cecal Tumors.—According to Erdmann, carcinoma is the most frequent cecal tumor requiring surgical intervention. Lymphosarcoma is the most highly malignant tumor. Cecal carcinomas are slow growing and only moderately malignant. Secondary infection invades the tumor early and is the chief cause of the profound cachexia found in these cases. Distant metastases are rare in carcinoma of the cecum. Secondary intestinal growths are not uncommon and should always be sought for. A malignant tumor obstruction may simulate a chronic appendicitis.—*American Journal of Surgery.*

MISCELLANY

Under this department are ordinarily grouped: News; Medical Economics; Correspondence; Twenty-five Years Ago column; Department of Public Health; California Board of Medical Examiners; and other columns as occasion may warrant. Items for the News column must be furnished by the fifteenth of the preceding month. For Book Reviews, see index on the front cover, under Miscellany.

NEWS

Coming Meetings—

American Medical Association, Milwaukee, Wisconsin, June 12-16, 1933, Olin West, M. D., 535 North Dearborn Street, Chicago, Secretary.

California Medical Association, Del Monte, April 24-27, 1933, Emma W. Pope, M. D., 450 Sutter Street, San Francisco, Secretary.

Pacific Coast Society of Obstetrics and Gynecology, Los Angeles, December 8-10, 1932, Clarence A. DePuy, M. D., 230 Grand Avenue, Oakland, Secretary.

Western Surgical Association, Madison, Wisconsin, December 9-10, 1932, Frank R. Teachenor, M. D., 306 East Twelfth Street, Kansas City, Missouri, Secretary.

Nobel Prizes in Medicine.—Again last week the Stockholm Academy of Medicine awarded a Nobel Prize, jointly to Professor Sir Charles Scott Sherrington of Oxford and Professor Edgar Douglas Adrian of Cambridge, for their separate but complimentary studies of nerves. Both are experimental physiologists. Professor Sherrington never practiced medicine. Professor Adrian practiced only during the war when lack of physicians forced him into a London hospital. . . . The Sherrington-Adrian award gave Great Britain a score of six Nobel Prizes in Medicine, against the two for the United States. Previous Britons: the late Sir Ronald Ross (1902), Archibald Vivian Hill (1922), John James Rickard Macleod (1923, while at Toronto), Sir Frederick Gowland Hopkins (1929). The United States Nobelmen: French-born Alexis Carrel (1912), Austrian-born Karl Landsteiner (1930).—*Time,* November 7, 1932.

Pan-Pacific Surgical Association, Honolulu, Hawaii.—As a result of a questionnaire that was circulated on April 20, 1932, the Honolulu, Hawaii, local committee of the Pan-Pacific Surgical Association, at a meeting held on September 22, unanimously decided that the projected 1933 congress be postponed for at least one year or longer, dependent upon the improvement in world economic conditions. From the questionnaire, it is definitely determined that there would be very scanty attendance from those members who attended in 1929, and while keen interest was expressed by practically all of the participants of that meeting, very few of them were able to say that they could make a return trip in 1933.

San Diego Academy of Medicine.—The following lectures were delivered before the San Diego Academy of Medicine:

December 6—"Diseases of the Biliary Tract" by Dr. Frank H. Lahey.

December 8 and 9—"Toxemias of Pregnancy," by Dr. E. D. Plass.

San Francisco Heart Committee.—The Heart Committee of the San Francisco County Medical Society held its third annual postgraduate symposium on heart disease November 16 and 17, in half-day sessions at the San Francisco, Letterman General, Stanford University, and University of California hospitals. The program was arranged by Dr. Gordon E. Hein and Dr. J. Marion Read, assisted by the Committee on Education and Publicity, of which Dr. John P. Strickler is chairman. There was a total attendance of 455, and fifty cities of California were represented.

The following subjects were discussed:

History of the Development of Our Knowledge of Coronary Occlusion—Gordon E. Hein, M. D.

Angina Pectoris and Coronary Occlusion—Diagnosis and Management—Harold P. Hill, M. D.

Presentation of Cases of Coronary Occlusion—George D. Barnett, M. D., Le Roy H. Briggs, M. D., and staff.

Electrocardiographic Aids in the Diagnosis of Coronary Occlusion—J. Marion Read, M. D.

Spontaneous Rupture of Heart—A. M. Moody, M.D.

Various Types of Heart Disease—Demonstration with patients—W. C. Munly, M. D.

Cardiac Arrhythmia—Arthur L. Bloomfield, M. D.

The First Heart Sound—William Dock, M. D.

Mercurial Diuretics in Heart Disease — Garnett Cheney, M. D.

The Treatment of Cardiovascular Syphilis—Charles W. Barnett, M. D.

Thyroid Heart Disease—J. K. Lewis, M. D.

Hypertension—Walter Boardman, M. D.

Interpretation of Electrocardiograms — William J. Kerr, M. D.

Problems and Prognosis of Heart Disease—Eugene S. Kilgore, M. D.

Digitalis Ineffectiveness in Congestive Heart Failure—John J. Sampson, M. D.

X-Ray Diagnosis of Cardiovascular Disease—Francis Rochex, M. D.

The annual meeting and election of officers was held on November 17. The new officers of the Heart Committee for 1933 are: Major W. C. Munly, chairman; Gordon E. Hein, vice-chairman; J. Marion Read, secretary.

The Society of Plastic and Reconstructive Surgery. At the annual meeting of the Society of Plastic and Reconstructive Surgery, which was held October 28 at the New York Academy of Medicine, the following physicians were elected to active membership: Doctors H. O. Bames and W. S. Kiskadden of Los Angeles, Doctors G. B. O'Connor and George W. Pierce of San Francisco, and Dr. Howard Updegraff of Hollywood.

New York Academy of Medicine Broadcast.—The New York Academy of Medicine is having a broadcast of medical subjects at 8:30 a. m. on Mondays. The attention of the profession is called to this broadcast in order that they may advise their patients to listen in.

Cod-Liver Oil and British Custom Duties.—Smart Sir Hubert Samuel, leader of the orthodox (Free Trade) Liberal party, fired an effective broadside of cod-liver oil last week at the MacDonald-Baldwin National Government from which he and Lord Snowden resigned on the tariff issue. "I want to give just one illustration," cried Sir Herbert last week at a female Liberal rally, "of how the interests of the British consumer were ignored by the National Government at the Ottawa [Tariff] Conference. The most valuable medicine for delicate children is cod-liver oil. Hundreds of thousands of poor parents in this country have to buy bottle after bottle to save the lives and strengthen the bodies of their babies, and most of it has been coming from Norway duty free. But now the delegates of the British Government have agreed at Ottawa to impose a tariff of 45 per cent on cod-liver oil for the benefit of Newfoundland. How did they dare make this enormous addition to the cost of medicine essential to the health of our poorest children? But there it stands on the records of Ottawa, signed in behalf of this country by Stanley Baldwin!"—*Time.*

Honors to Professor S. L. Millard Rosenberg.—During the last several years, readers of California and Western Medicine have had the opportunity of reading in the Lure of Medical History department a number of articles written by S. L. Millard Rosenberg, Ph. D., professor of Spanish at the University of California at Los Angeles. A recent honor which has come to this contributor has been that of election to the Academia Espanola, the highest Spanish honor to which an American scholar in the field of Hispanic studies can officially attain. The Spanish academy, established in 1713, and limited to twenty-four active members, is the final authority in Castilian usages, as recorded in its dictionary and grammar.

New Cancer Films.—In the interests of medical education *The American Journal of Cancer* is offering, without cost, a series of motion picture films on cancer for showing before medical groups. The films now ready for distribution are "Cancer of the Skin," based on material gathered by Dr. Joseph Colt Bloodgood and Dr. Charles F. Geschickter of Johns Hopkins Hospital, and one showing "Technical Methods of Cancer Research," taken at the Institute of Cancer Research, Columbia University. The films are obtainable in either 16 or 35 mm. widths, and are adequately titled so that no explanation is required while they are being shown. They are available for use in the United States only. Full information concerning the films can be obtained from the Motion Picture Department, *American Journal of Cancer,* 1145 Amsterdam Avenue, New York, N. Y.

Breeders of Parakeets Fight Embargo in Vain.—With parakeet breeders clamoring for relief, federal and state authorities admit they are powerless to raise the quarantine on the 150,000 birds in this state, laid during the recent psittacosis scare. This is the reason:

Under both quarantines the "love birds" may be shipped into or out of California if they are proved not to have parrot fever, but the only way to find out is by an autopsy.

So hard hit is the business that the State Legislature may be asked to provide relief similar to that given stockmen in the foot-and-mouth epidemic a few years ago, Dr. John H. Graves, president of the State Board of Health, said.

In an effort to provide a diagnosis without an autopsy, Dr. Karl F. Meyer, director of the Hooper Foundation at the University of California Hospital, is conducting experiments, but has not reached conclusions yet.—Los Angeles *Times.*

Medical Aptitude Test for 1933 Will Be Offered By University of California.—The University of California will participate in the third annual medical aptitude test held nationally by the Association of American Medical Colleges on December 9, at 7:30 p. m., according to an announcement made recently by Dean G. D. Louderback of the College of Letters and Science.

A passing grade in this test, although not necessary for entrance to the University of California Medical School, is an entrance requirement for approximately 90 per cent of the medical schools in the United States, says Dean Louderback, and all students on the Berkeley or Los Angeles campus who expect to enter a medical school in 1933 should take the test. It will not be given again this academic year.—*University of California Clip Sheet.*

Death of Dr. William Englebach.—Dr. William Englebach, fifty-five, world-renowned authority on endocrinology, died in a hospital in Springfield, Illinois, from complications of heart disease. Doctor Englebach had been ill since May and entered the hospital in Springfield on June 12. He was buried in Arenzville, where he was born. He formerly was a resident of Santa Barbara.

University of California Tries Using Air Injection in Brain for X-Rays.—One of the most extensive studies yet made of a special technique for x-raying the human skull and brain which requires the substitution of air for a portion of the normal brain fluid has just been completed by the University of California Medical School, and will be reported upon in detail at a meeting of the Radiological Society of North America.

Dr. Robert S. Stone, who made the x-ray studies in collaboration with Dr. O. W. Jones of the department of neurosurgery, will present a paper on "Results of Encephalographic Studies Using the Gravity Method."

The method of substituting air for brain fluid in taking x-rays of the skull is not new, having been first used in 1916, but it has not been widely adopted because of a lack of accurate information. The object of the University of California study was to supply further information on the proper use of the method.

Approximately 150 cases have been x-rayed at the hospital since January, 1930, by this method, where other means of examination or diagnosis were found inadequate. The procedure is to make a lumbar puncture of the spinal column, draw out a certain amount of the spinal fluid, and then inject air in the place of the fluid. The presence of this air offers a contrast to the brain substance and makes it possible to obtain usable x-ray photographs.

Support of Voluntary Charity Hospitals.—A warning to the public against forcing the voluntary charitable hospitals of the United States—which served more than five million patients last year—to lower their medical standards was issued here yesterday by Dr. William F. Snow,* president of the National Health Council.

Doctor Snow's statement was on behalf of a group of representatives from a score of national public health organizations who met to consider the hospital situation throughout the country. "The finances of the charitable hospitals have suffered greatly," he said, "and notwithstanding the urgency of contributions to emergency relief agencies, the public must support the hospitals liberally if it expects the hospitals to continue to give the best that medical science can offer.

"According to statistics prepared by the American Medical Association," said Doctor Snow, "110 hospitals closed their doors in 1931 and other hospitals are considering such a move because of the financial stringency. There are more than 4,500 of these voluntary charitable hospitals in the United States, many of which have found it necessary to close a large number of their wards and private rooms.

"The American Hospital Association has pointed out that in the voluntary charitable hospitals the spread between income and expense has been greatly increased in the last three years. On the average they are now giving more than 30 per cent of their services to patients who cannot pay the cost of their care, while their earnings have fallen off 15 to 20 per cent. For years past they have had to look to the American public for some $100,000,000 in contributions for the support of this free work." . . .

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* Editor's Note.—Dr. William F. Snow will be remembered by older members of the California Medical Association as the efficient secretary of the California State Board of Health two decades or so ago.

Income Drops for Doctors.—One-half the country's doctors are shown by the Committee on the Costs of Medical Care to have received net incomes of $3800 and less during 1929.

The nongovernmental committee, of which Secretary Wilbur is chairman, reported the average net income of the 121,000 in private practice was $5,467, with the median for all doctors, including the 21,000 in salaried positions, $3827.

Physicians' incomes were reported as having dropped 17 per cent in 1930 and probably a larger percentage in 1931. In 1929, 15 per cent of the doctors were listed as receiving less than $1,500 for professional activities, while 4 per cent lost money.

More efficient use of facilities and the elimination of unnecessary treatment were among the things recommended to increase net incomes, with the explanation the average netted was 61 per cent of the gross receipts.

William August Puckner.—For a great many years Doctor Puckner has supplied the state and a few other medical journals with abstracts from the *Journal of the American Medical Association.* These abstracts dealt particularly with the work of the Council on Pharmacy and Chemistry, the Bureau of Investigation, and later the Council on Physical Therapy and the Committee on Foods. Included also were epitomized comments of pertinent query and minor notes or editorials from the Journal. This work Doctor Puckner did in addition to his tremendous burdens as secretary of the Council on Pharmacy and Chemistry. . . .

From the report of the American Medical Association Council on Chemistry and Pharmacy the following is taken:

William August Puckner was born February 24, 1864, at New Holstein, Wisconsin. He died in the Presbyterian Hospital, Chicago, October 1, 1932. He had been in failing health for a long time and in the hospital some ten weeks.

The creation of the Council on Pharmacy and Chemistry was authorized by the Board of Trustees of the American Medical Association February 3, 1905; the first meeting of the newly created council was held at Pittsburgh some ten days later. Professor Puckner, one of the original members, attended that meeting and was active in formulating the principles on which the council has worked, as expressed in its official rules of procedure. One year later he became secretary, a position of grave responsibility; he filled it well and faithfully for twenty-six years and seven months. . . .

When his eyes began failing and when he realized that the condition would inevitably result in blindness, Professor Puckner courageously prepared himself to face the handicap. He investigated the practicability of Braille's system for the blind and the typewriter; both of these he used. He kept in touch with current medical and chemical literature, both English and foreign, especially German, by having matter read to him, and in the case of important articles, recorded on the dictaphone for review at home; for his determination to overcome this disability compelled him to work at night as well as day. To those who knew him at his daily work, Doctor Puckner seemed to have dedicated his life to that which seemed nearest to his heart—the success of the council and its efforts to advance scientific therapeutics. With patience in adversity, with sincerity of purpose, with conscientious devotion, he carried on. His heart was in his work: his life devoted to the cause he served.

The council, individually and collectively, wish to express their high regard and affection for Professor Puckner as a friend and co-worker and admiration for the way he carried on, for his executive ability, for his efficiency in spite of handicap, for his loyalty. In his death the council has lost a member of unique value: the medical profession, a servant who unobtrusively served it faithfully for a quarter of a century.

CORRESPONDENCE

Subject of Following Letter: California Law Regarding Abortions.

To the Editor:—We are enclosing herewith a copy of a letter written in answer to a request for the law regulating reporting of abortions, and we are wondering if it would be worth while to quote in CALIFORNIA AND WESTERN MEDICINE, Chapter 417, Statutes 1929, page 739, so that all licentiates might be made aware of this statute.

Very truly yours,

C. B. PINKHAM, M. D.,
Secretary-Treasurer.

* * *

Dear Doctor:—Your letter addressed to the State Board asking for "A pamphlet covering the state law on reporting abortions or attempted abortions" has been forwarded us for reply.

The only law we can find which might be inferred as requiring the reporting of abortions will be found in the Statutes of 1929, page 739, Chapter 417, an Act requiring the reporting of personal injuries, wherein it is made the duty of every physician and surgeon to report to the appropriate officers any person in his charge or under his care "suffering from any wound or other injury . . . inflicted upon any person in violation of any penal law of this state." Inasmuch as abortion is a penal offense, we assume that it necessarily would fall under the provision of this statute.

Very truly yours,

C. B. PINKHAM, M. D.,
Secretary-Treasurer.

Subject of Following Letters: Rabies—As Viewed by a Lay Newspaper Health Section Columnist and by a California Health Officer.[*]

October 7, 1932.

William Brady, M. D.,
c/o Los Angeles Times,
100 North Broadway,
Los Angeles, California.

Dear Doctor Brady:

I noticed some time ago in an article in your health column of the Los Angeles *Times* that you stated you did not believe there was such a thing as human rabies. I have seen four deaths from human rabies during the past ten years; and each year for a number of years we have treated from three to four hundred persons who have been bitten by mad dogs, employing the Pasteur method.

I thought you would be interested in the attached abstract of a case of a man who died of rabies recently (Alfred E. Yoder, report of September 21, 1932), and went to autopsy in the county coroner's office. I am somewhat surprised that a man who signs himself "M. D." would make such a statement to the public, which I can assure you leads to serious difficulty for health departments. It seems to me you have an excellent opportunity in your articles to teach modern public health, and thus indirectly save many human lives. It would appear to me that a man in your position ought to keep in touch with public health methods in his area and check his ideas carefully with what is actually occurring, as medical knowledge is constantly advancing.

I assure you this is not sent in a spirit of antagonism, but in an earnest endeavor to present to you facts which should be valuable. There is so much misinformation being given to the public that I feel you have a grave responsibility to the public health.

Yours very truly,

J. L. POMEROY, M. D.,
Los Angeles County Health Officer.

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[*] See, also, editorial comment in this issue of California and Western Medicine, page 403.

The autopsy report which was enclosed is as follows:

Los Angeles County Health Department
To: Dr. J. L. Pomeroy.
From: George H. Roth, M. D.
Date: September 21, 1932.
Subject: Alfred E. Yoder—Case of Rabies.

July 25, 1932—11:45 A. M., Mr. Yoder bitten in Glendale City. 12 M., wound treated and dressed by Doctor Kaufman. 12 M., one dose Pasteur treatment.

July 26—Yoder called at Glendale Health Center. One Pasteur treatment by Dr. Kaufman. Medical Social Service arranged for Pasteur vaccine from General Hospital and referred patient to Burbank health officer.

July 27—One Pasteur treatment by Doctor Ransome, Burbank.

July 28—Two Pasteur treatments by Doctor Ransome, Burbank.

July 29—Two Pasteur treatments by Doctor Ransome, Burbank.

July 30—Two Pasteur treatments by Doctor Ransome, Burbank.

July 31—Two Pasteur treatments by Doctor Ransome, Burbank.

August 1—Two Pasteur treatments by Doctor Ransome, Burbank.

August 2—One Pasteur treatment by Doctor Ransome, Burbank.

August 3—One Pasteur treatment by Doctor Ransome, Burbank.

August 4—One Pasteur treatment by Doctor Ransome, Burbank.

Total—Sixteen doses in eleven days, following bite.

Patient discontinued treatments. Five treatments due but not taken.

August 19—Onset of illness: difficulty in swallowing; vomiting.

August 21—Dr. C. T. Hallburg called.

August 22—Dr. C. H. Carpenter called. Difficulty in swallowing. Blood pressure 150/56; "Consolidation noted in lungs."

August 23—Patient died in convulsions at 10:17 A. M.

August 23 and 24—Autopsy by Dr. A. F. Wagner, Los Angeles County autopsy surgeon. Finding: Patient died as result of having been bitten by a "mad dog" and that pneumonia and other conditions found were secondary to the prime cause of death, which was rabies.

September 14—Coroner's inquest—Jury returns verdict: "Cause of death—rabies; secondary, pneumonia and other conditions."

(Signed) GEORGE H. ROTH, M. D.,
Director, Bureau of Communicable Disease Control.

* * *

October 15, 1932.

Dear Doctor Pomeroy:

Thank you for your letter of October 7 directed to me in care of the Los Angeles *Times*. I appreciate the irritation which my published statements must give you, and so I don't mind in the least the scolding you take occasion to give me.

But I want to say, just between ourselves, that I think the abstract of the case of alleged rabies that went to autopsy is one of the least convincing I have received—and I have received many reports of cases of alleged rabies in man. In fact the abstract gives no clue to the cause of death and makes no allusion to any evidence of rabies the autopsy may have revealed.

Even if this was a genuine and unquestionable case of rabies in man, under the circumstances may I not ask, just between ourselves and not for the public, whether any harm is done by my vehement assertions that rabies can't or does not happen in man? I mean, suppose I had been the physician in that particular case. I would have advised the Pasteur treatment, and I do invariably advise it, in spite of my own doubt that rabies occurs in man. What, then, is your objection to my teaching?

Again, what difference did it make in the outcome of the illness that the man received sixteen doses of virus in the eleven days following the bite? And I might fairly ask what difference does it ever make in any case to give fourteen or twenty-eight doses of Pasteur virus. It seems to me that the scientific evidence rather indicates that the treatment itself is a cause of death or a contributing cause in too many such cases.

Certainly I do not wish to add any difficulty to the work of any health authority. No one can quote me as encouraging or creating any such obstacle to the work of the health officer. I think perhaps your annoyance is partly due to my attitude toward some of the absurdities of health departments.

Yours sincerely,
(Signed) WILLIAM BRADY.

October 28, 1932.

William Brady, M. D.,
265 El Camino,
Beverly Hills, California.

Dear Doctor Brady:

In reference to rabies you ask the question as to what harm your public statement that rabies does not occur in man might have on the public. May I state I have had some twenty years' experience in public health work and know whereof I speak when I say that statements of this kind from an M. D. are used by antivivisectionists and organizations of this kind before local governing bodies to show that medical opinion is divided on the question to prevent the passage of ordinances regulating rabies in dogs.

There were 2670 persons bitten by dogs in Los Angeles County territory last year, 418 of whom were given Pasteur treatment. We have had several areas of the county in quarantine from time to time because of rabies in animals, and the total cost of this work, together with impounding, runs close to $30,000 annually. We have had six deaths from rabies during the past few years, but we have as yet been unable, because of objection from the antis, to even secure an adequate licensing ordinance to offset the cost of supervision and to get rid of stray dogs.

You state: "No one can quote me as encouraging or creating any such obstacle to the work of the health officer." I do not see how you can prevent any person from quoting your remarks that rabies does not exist among mankind, and I assure you that in all probability will be used against the Health Department.

I consider you have a wonderful opportunity to assist in the most difficult task of education of the public in the scientific facts relating to the prolongation of life and the hygiene of living. I do not know, of course, if you have ever had any administrative experience in public health, but I sincerely believe that your statements concerning rabies are against the best interests of public health and place you in this respect along with the antivivisectionists and other enemies of public health progress.

This is my sincere and honest opinion as a health officer with the hope that you possibly may realize the effects of your statement, which you are perhaps not fully cognizant.

Very truly yours,
J. L. POMEROY, M. D.,
Los Angeles County Health Officer.

* * *

October 29, 1932.

Dear Doctor Pomeroy:

Thank you for the patience you show with me. I know my attitude must irk you, yet I cannot change my view unless I get convincing evidence.

You impute to me a statement that rabies does not occur in man. My invariable statement is that I don't know whether the disease occurs in man, that the evidence we have does not seem convincing to me, and that I should give the patient the benefit of the doubt in any case—that is, the Pasteur treatment to prevent development of disease if the physician in attendance deems it advisable.

If any anti-organization ventures to cite me or my statements about this I'll undertake to make a suitable refutation.

I should join any body of people who might oppose any attempt to establish a dog-licensing racket under any pretext whatever. If your campaign against rabies includes the licensing of dogs, your position is surely a weak one. Even if the county could possibly maintain an effective dog quarantine, the measure would be as effective as the shotgun quarantine against yellow fever was in the old days.

What, only 2670 persons bitten in Los Angeles County last year? You didn't hear of the tenth of them! I venture to say at least forty thousand persons were bitten. Only the more ignorant, superstitious and fearful victims came to the notice of you health authorities. For instance, four members of my own household were bitten by dogs last year, but we deemed it no business of the authorities. But I judge rather from my own experience when I was in general practice. Dog bites were a common minor emergency, but seldom was a case brought to the attention of the health department. I think that is the usual practice of physicians everywhere.

But I do appreciate the tolerant spirit you have shown, Doctor Pomeroy, and I'd like to call and get well enough acquainted with you so that we may call each other names of we like, without getting miffed over it. You never can tell, I may be like the mule the veterinarian cured in spite of the animal's lack of faith.

Yours sincerely,

(Signed) William Brady.

Subject of Following Letter: Proposed Protection of Milk and Milk Products Through a New System of State Inspection.

To the Editor:—At the recent meeting of the Health Officers' Section of the California League of Municipalities at San Diego, California, a resolution was adopted, whereby the Health Officers' Section went on record opposing the taking over by any department of the dairy and milk inspection program which for so many years has been a part of the public health program. This resolution, copy of which is enclosed, was later adopted by the California League of Municipalities as a whole.

Both as a health officer, and as a taxpayer, and as a physician, and as a member of the California Medical Association, I wish to register my protest against the plan of Dr. J. J. King, which he has recently submitted and transmitted to all parts of the state. I am, therefore, respectfully calling this matter to the attention of the California Medical Association and trust that its officers will take proper action if it becomes necessary to protect the health departments should any attempt be made to weaken the public health program by the transfer of milk inspection work to other agencies.

The health departments and the medical societies throughout the country have been largely instrumental, and particularly so in California, in raising the standards of market milk to its present high plane. Likewise, health officers and the members of the medical profession have done everything in their power to increase the consumption of milk because of the value of milk as a food. The dairy industry indeed owes these men and women a debt of gratitude for their support in the years gone by.

Health departments and public health work must be kept out of politics. The protection of the public health is more important to our citizenry during the present economic crisis than in any other time in our history. The relationship of milk to health and disease has been quite conclusively demonstrated, and it seems quite clear that milk and dairy inspection is, and should continue to be, essentially a function of public health departments as it has been for many years past.

Very truly yours,

....

The resolution referred to above follows:

Whereas, A plan has been recommended which would remove milk inspection from the jurisdiction of local health departments; and

Whereas, The present high standard of the California market milk supply has been attained largely through the efforts of local health officers; and

Whereas, It is recognized that milk control is one of the paramount activities of a public heath program; now therefore be it

Resolved, That the Health Officers' Section of the California League of Municipalities in regular session assembled, do vigorously oppose any plan whereby all or any part of the milk inspection service shall be removed from the jurisdiction of such health departments.

The King plan as explained in a bulletin, reads thus:

State of California
Department of Agriculture
Sacramento
Dudley Moulton, Director

August 31, 1932.

Proposed Plan for Uniform Dairy and Bovine Tuberculosis Control

Dr. Joseph J. King
Chief, Division of Animal Industry

The plan that I am proposing has to do with regulatory and service functions performed by the state and various municipalities and counties for the dairy industry of California, including the control and eradication of infectious diseases, particularly tuberculosis of dairy cattle.

Under existing conditions dairy inspection systems are maintained by the state and many municipalities and counties, and in the conduct of these functions by these separate and independently conducted governmental agencies much duplication of effort and overlapping of functions are involved. Such a condition not only is wasteful but tends to create resentment and resistance in the industry. This costly and impractical situation can and should be changed so that a uniform dairy inspection system may be provided throughout the state, under the control of only one official agency.

The present plan of tuberculin testing in California does not provide for participation in indemnity payments by all dairymen when reactors to tuberculin test are found in their herds. To overcome such a situation bovine tuberculosis control work and indemnity should be made state-wide and uniform.

To remedy this situation, and also to increase the efficiency of these activities at a huge saving in appropriations, the following plan is proposed:

1. Place expense of dairy inspection and bovine tuberculosis control on a self-supporting basis by licensing owners of dairy cattle at the rate of $1 a head per annum for this regulatory service.

2. Eliminate cities and counties from the field of dairy farm inspection and place this function under the direct control of the State Department of Agriculture. (Cities and counties to continue maintaining their laboratories.)

3. All tuberculin testing of dairy cattle throughout California to be conducted free by the state. Under such a plan the private practicing veterinarian would be employed and paid by the state to test dairy cattle in his immediate locality. This work would be conducted under the supervision of a veterinary inspector in the employ of the state who would also be responsible for the dairy inspection and analogous work in a county or group of counties, such as making appraisals and arranging for tests.

4. Increase of state's share of indemnity paid for reactors from one-third to two-thirds of appraised value, the other one-third to be paid by Federal Government. Indemnity to be paid out of funds created. This will give dairy men full value for reactor after salvage is deducted.

The taxing of dairy cattle as outlined, for the reasons set forth is estimated to furnish a sum in the neighborhood of $800,000 per annum.

This sum will more than take care of state-wide dairy inspection, general disease control, and tuberculin testing and payment of indemnities. This would mean the elimination of large appropriations for dairy farm inspection work by the cities and counties, and also nearly place the Division of Animal Industry on a self-supporting basis.

It would also provide against interruption in the tuberculosis control program inasmuch as there would be an assurance that funds for this purpose would be available at all times.

It should be understood that the most costly part of the tuberculosis control program is during the first three years when the most reactors will be found and most funds will be required to pay indemnities. After this period the cost of control should decrease and under such circumstances the tax may be decreased or a fund may be set up with unexpended surplus to be used for the benefit of the dairy industry; such as promotional and educational work for the sale of dairy products.

To further benefit the dairy industry of California, a fee of $2.50 a head to be charged on all imported dairy cattle for inspection.

This plan will give the dairy industry of California a standard that has no equal in any part of the nation.

It will also give the industry the cheapest kind of insurance; less than one-third of a cent a day a cow and insure a fund for combating infectious diseases.

The state will absorb as many city and county dairy farm inspectors as possible. This can be done by the saving in travel expense by state men who will be located in each county, thus eliminating the existing heavy travel expense.

It is estimated this will save the state, cities, and counties approximately $2,000,000 in taxes yearly.

This plan will include all types of dairies, such as those producing market milk and cream and manufacturing milk and cream.

Let us all forget about love when there is work to be done and we will all be out of the trenches by the end of the next legislature.

Comment on the above plan, from a disinterested source, sent to the editor at the latter's request, is given below. The proper protection of milk and milk products is of great importance to the people of California. The legislature will convene on January 3. On that account the editor prints this information:

The plan originally conceived by Dr. J. J. King was essentially as follows:

The owners of cattle to pay into the state treasury a fee of $1 per cow per annum. The accumulated sum of approximately $800,000 to be used for tuberculosis control work throughout the state; part of the money to be used for compensation for the animals which were to be killed; the remainder to be used for promotion work which would increase the sale and consumption of milk and dairy products. Naturally, increased inspection through state officials, etc., was also contemplated. I heard the other day indirectly through the Dairy Council that this proposition is already killed. It was an idea conceived in the Department of Agriculture without consulting anybody. Personally, I feel that the letter by Doctor ——— and the resolution should be published in the Journal. I enclose a copy of Doctor King's plan.

Sincerely yours,

....

MEDICO-LEGAL *

Osteomyelitis Attributed to Extraction of Tooth

Roberts, the plaintiff, had been suffering from toothache for a day or two. The gum surrounding the tooth was swollen, much inflamed, and extremely sore. He sought relief at the office of one E. R. Parker, otherwise known as Painless Parker. There a Doctor Baer examined the tooth and, without taking a roentgenogram to determine the cause of the inflammation and swelling, injected procain with a hypodermic needle into the inflamed and swollen gum, in two places on each side of the jawbone, and extracted the tooth. The patient grew rapidly worse notwithstanding his visits from day to day to Parker's office. On the sixth day after the extraction he consulted other dentists and oral surgeons. They sent him to a hospital, where a diagnosis of osteomyelitis of the jawbone was made and he was operated on. At the expiration of a week, he was transferred to another hospital, where he remained for thirty-six days and was subjected to two more operations. In the end he recovered, but he had lost all sense of feeling in the region of the right lower jaw, and such teeth as remained on that side were loosened. He thereupon brought suit against Parker and another, and from a judgment in his favor, the defendants appealed to the District Court of Appeal, first district, division one, California.

There was ample expert testimony, said the district court, to prove that inflammation, swelling and pain in the gums are definite symptoms of infection, and that where such conditions exist the dental profession considers it dangerous to inject an anesthetic into the gum with a needle and to extract a tooth, without first making a roentgenogram to determine the cause and extent of the infection and without first taking steps to reduce such infection as is present. The injection of a local anesthetic blindly at the base of an infected tooth is likely to scatter the infection, which, if carried into the blood stream, will produce osteomyelitis of the jaw bone. In view of the swollen, highly inflamed and extremely sore condition of the patient's gum in the vicinity of the aching tooth when he first visited the office of the dentist defendants, and of the serious effects that followed the removal of the tooth, the jury was justified in concluding as it did that the attending dentist did not exercise reasonable skill and diligence and that his failure so to do was the direct cause of the acute condition that followed the extraction. The dentist defendants contended, however, that regardless of their alleged failure to exercise reasonable skill and care, the injection of the anesthetic and the extraction of the tooth had nothing to do with the causation of the osteomyelitis. . . .

Commenting on the contention that there was a possibility that the osteomyelitis of the jawbone had developed from some cause other than the dentist defendants' failure to use reasonable precautions and ordinary care, the court pointed out that because of the subtleness of the origin and development of osteomyelitis it was not necessary that the evidence should demonstrate conclusively and beyond the possibility of a doubt that the injury of which the plaintiff complained was the result of negligence. If that were the rule, said the court, it would never be possible to recover in a case of negligence in the practice of a profession which is not an exact science. If in spite of testimony tending to show a different origin of a disease there is testimony to sustain an opposite conclusion which has been reached by the jury, the verdict of the jury must be sustained.

The judgment of the trial court in favor of the plaintiff was affirmed.—*Roberts v. Parker (Calif.), 8 P. (2d) 908.*

* * *

Dental Practice Acts—Aiding and Abetting an Unlicensed Practitioner

The Dental Practice Act of California authorizes the revocation of a dentist's license if he aids or abets an unlicensed person to practice dentistry unlawfully. A complaint was duly filed before the Board of Dental Examiners of California, charging that a licensed dentist, Bley, "permitted one R. F. Morrison to have the use of a certain dental office . . . and to have the use of certain dental instruments and paraphernalia therein contained, for the purpose of practicing dentistry," and that by said acts Bley "aided and abetted the said R. F. Morrison, an unlicensed person, to practice dentistry unlawfully." Bley obtained from the Superior Court of San Joaquin County a writ of prohibition that prevented the board from proceeding under the complaint. The board thereupon appealed to the District Court of Appeal, third district, California. We think, said the Appellate Court, that the accusation is fatally defective in the following particulars: First, there is no allegation that Bley owned or had any control of the dental office or equipment referred to. Second, there is no allegation that Bley owned or had leased the building or premises wherein the dental offices and equipment were located. Third, there is no allegation that Bley knew or had any information that Morrison was an unlicensed dentist. The Board of Dental Examiners contended that a complaint of unprofessional conduct is sufficient if it is in the language of the Dental Practice Act, but nowhere in the statute, said the court, is to be found the word "permitted." If the word "permitted" had been left out and the accusation had charged that Bley had aided and abetted Morrison to practice dentistry unlawfully, then a violation of the Dental Practice Act might have been stated. The Board of Dental Examiners laid great stress on the fact that Bley did not object to the sufficiency of the complaint before the board. This contention was held to be without merit, however, since a complaint, in its statements of facts, must be sufficient to show unprofessional conduct or it will not give the board power or jurisdiction. The judgment of the Superior Court prohibiting the board from proceeding under the complaint was affirmed.—*Bley v. Board of Dental Examiners of State of California (Calif.), 7 P. (2d) 1053.*

* * *

Malpractice—Infection Following Childbirth

There can be no doubt, said the District Court of Appeal, first district, division one, California, that it requires no expert testimony to prove actionable negligence on the part of a physician who performs a rectal and vaginal examination with unsterilized hands, if it is shown that an infection proximately results therefrom. But where the only evidence of infection is that an examination made two months after the delivery disclosed a tear in the uterus, which was infected, and the examining physician fails to testify as to the probable or possible source of the infection, or as to the length of time it may have existed, a finding that the infection resulted from the plaintiff being examined, prior to delivery, by a physician who neglected to sterilize his hands, does not find substantial support in the evidence. It amounts to no more than the barest surmise or conjecture. In the absence of expert testimony, the jury could not properly find that the defendant was guilty of malpractice because the fetus was twisted violently, causing the plaintiff great pain, when the only expert witness to testify stated that in certain cases it is proper practice to turn the baby to facilitate delivery. Neither would the fact that all or part of the placenta was not removed furnish evidence of negligence, in the absence of expert testimony, especially where there is a total lack of evidence that any injury was proximately caused thereby. To establish malpractice, it was alleged that repeated examinations of the plaintiff were made by those whom she described as medical students, accompanied by levity and discourtesy. The plaintiff relied on the case of *De May v. Roberts,* 46 Mich. 160, 9 N. W. 146, 41 Am. Rep. 154, in which a doctor took an unmarried, nonprofessional man with him into the delivery room. In that case the court held that the mother was entitled to recover for the "shame and mortification" which she thereby suffered. In the present case, however, shame and mortification were not alleged as an element of damage, the recovery being sought solely for alleged physical injuries. Conceding that the treatment accorded the plaintiff amounted to battery or trespass to the person, the court said, there was no showing that any substantial injury was proximately caused thereby. In the absence of any expert testimony that the defendant was guilty of malpractice, the Appellate Court sustained the action of the trial court in granting the defendant's motion for a nonsuit.—*Inderbitzen v. Lane Hospital (Calif.), 7 P. (2d) 1049.* (J. A. M. A., Vol. 99, No. 17.)

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* These abstracts of three California cases are reprinted from the Journal of the American Medical Association, Vol. 99, No. 18.

FUTURE TAXES [*]

National Economy League—California Division

California Headquarters — Dr. Alanson Weeks, temporary chairman; Samuel P. Johnston, organizing secretary. 625 Market Street, San Francisco. Room 217. Douglas 8288. California branch now being organized.

National Advisory Council—Calvin Coolidge, Alfred E. Smith, Elihu Root, Newton D. Baker, General John J. Pershing, and Admiral William S. Sims.

National Officers—Rear Admiral Richard E. Byrd, chairman; Archibald B. Roosevelt, secretary; Graham B. Blaine, treasurer.

California Advisory Council—Now being formed. These have accepted: Dr. David P. Barrows, formerly president of the University of California; Lieutenant-General Hunter Liggett, United States Army, Retired; Dr. Robert A. Millikan, president California Institute of Technology, Pasadena.

Where We Should Cut the Costs

The Federal Budget has five main divisions. Public Debt, Veterans, Army and Navy, and Public Works cover 83 per cent of the total. The fifth division or 17 per cent represents all other activities of the government. Although great attention is being given by the government itself to possible savings in these administrative costs, any further reduction that can be made at this time would be relatively small in contrast to the total sum involved. Let us examine the four other items:

Public Debt—$1,136,700,000. About $640,000,000 is for interest and $496,700,000 is for sinking fund operations under statutory provisions.

Veterans' Administration—$928,000,000. This represents almost a quarter of the total. In the last five years World War costs have greatly increased until they threaten by 1945 to equal the cost of the war itself.

Army and Navy—$648,300,000. This will be spent for the country's defense, admittedly reduced to the lowest possible point consistent with national safety unless disarmament is accomplished by international agreement.

Public Works — $538,100,000. Expenditures under this head may well be subject to a reduction, but they are at this time an important contribution of the government to relief of unemployment.

Obviously, therefore, any serious consideration of important federal economy invites analysis of expenditures by the Veterans' Administration.

A Challenge to the American People

Representative Government is at the cross-roads. This nation is now engaged in an unprecedented struggle against the combined forces of economic, political and social disorganization. The people must face squarely the question as to whether they will longer permit their government to be a thing apart, influenced chiefly by sectional or class groups, or whether they will band together to exercise through it the principles upon which the nation is founded.

It is useless to find fault with others for the present situation. The responsibility for the action of our political bodies lies with the people themselves. The average public servant will do what he believes the majority of his constituents wish him to do. It only remains for the great mass of citizens of this nation to inquire, to think, and to act.

Purposes of the League

The National Economy League is a strictly nonpartisan citizens' organization formed to direct public opinion toward government economy. It believes that the foundation stone of recovery and of national stability is the restoration of government administered economically for the benefit of all the people. It proposes to present to the voters of the country a definite program for the elimination of wasteful expenditures which have crept into the government through the pressure of special interests. Its success depends upon the active support of those thoughtful citizens who, without regard to class section or party sympathy, put the interests of the nation above all else.

The following is taken from its "Declaration of Purposes":

1. "To revive and restore the American principle that our Government shall be a Government truly for the benefit of the whole people. . . .

2. "As a general objective to secure the reduction of all wasteful and unnecessary governmental expenditures, federal, state and local, which have risen to a point where they threaten the public credit and sap the resources of the people—and thus to compel the reduction of the taxes which these rising expenditures ultimately exact from all the people. To this end to coöperate with other nonpartisan citizens' organizations concerned with the reduction of governmental expense and taxes.

3. "To provide a national organization through which the unorganized majority—all the men and women entitled to vote—may unite for effective action to achieve these objects."

Immediate Objective

The National Economy League takes as its first specific objective the elimination of the legalized abuse whereby at least $450,000,000 per annum is now being expended by the national government for benefits to veterans *who suffered no disability in or through war service.* This expenditure is entirely distinct from the payments under the so-called "Adjusted Compensation Act" (popularly known as the Bonus).

The elimination of this expenditure will in no way interfere with a national policy of just and liberal treatment of the dependents of those who lost their lives in the service of their country, and of living veterans who were in fact incapacitated as a result of war service. Such a policy the League supports and advocates.

The League vigorously opposes, however, the legalized abuse of payments and benefits for nonservice-connected disabilities:

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[*] See also editorial comment, page 401.

First, because to exploit the mere wearing of the nation's uniform for class gain is destructive of the principles of American citizenship and diverts attention from the deserving veteran who was in fact disabled through his war service;

Second, because among the items of government expenditures, this unjustified subsidy for a specially favored class is already so great in amount as to be an intolerable financial burden;

Third, because the legislative history of the country shows that after each war this class of legislation has become steadily more unjustifiable in character; and

Fourth, because, regardless of any future legislation, payments under the present laws, unless repealed, will steadily mount from year to year, until the country will face either a bankrupt treasury or an increase in taxes on an unbearable scale.

* * *

The National Economy League is entirely supported by voluntary gifts. It is hoped that a very large number of small subscriptions from one dollar up will furnish the means to meet the costs. Those who can help financially will please send checks to The National Economy League, California, 625 Market Street, Room 216, San Francisco.

* * *

Every citizen in the United States is eligible for membership in The National Economy League. It is planned to secure as large a membership as possible, and to make the League a powerful organization to represent the interest of the people as a whole without regard to party. This is the only way in which the objects of the League can be achieved.

No financial obligation attaches to membership. It is hoped, however, that a number of contributions from one dollar up will be received. Those who cannot contribute will, nevertheless, be just as welcome to membership in the League, especially if they can devote some of their time to furthering the League's enrollment.

Ask for membership cards. Give them to your friends. Get their coöperation.

* * *

(COPY)

The White House
Washington

July 22, 1932.

My Dear Mr. Clark:

I am deeply interested to learn of the formation of The National Economy League. There is great need for a nation-wide and nonpartisan organization designed to give persistent attention to keeping down governmental expenditures. The subject is too complicated to be dealt with by sporadic groups in temporary emergencies. The pressures upon governments to spend more are ceaseless, and no intermittent protests will stem the tide. Swarms of lobbies organize behind every form of expenditure and no organized group ever defends members of the Congress who withstand their pressures. Ceaseless vigilance alone can cope with them. Every branch of government activity should be scrutinized, and of State and City governments as well as Federal. I trust that your organization will not confine its useful labors to any narrower range, for the problem is all of one piece and should be so dealt with.

Yours faithfully,

HERBERT HOOVER.

Mr. Grenville Clark
Chairman, Organization Committee
The National Economy League
New York City

(COPY)

Poughkeepsie, N. Y.,
July 24, 1932.

Grenville Clark, Esq.,
31 Nassau Street,
New York, N. Y.

I am glad the National Economy League will work to create a clearer understanding of all government expenditures on the part of the average voter. Knowledge of and interest in Federal and State budgets by the electorate are essential in order to sustain the executive and legislative branches of government in reducing government costs and balancing budgets. The Democratic platform is clear in its declaration in favor of government economies and also in what it says in relation to adequate care for disabled veterans who have suffered disabilities or disease from actual service in time of war and for their dependents.

FRANKLIN D. ROOSEVELT.

CALIFORNIA LEGISLATURE

Roster of Members of 1933 Session

On January 3, 1933, will be convened the next biennial session of the recently elected California Legislature. The roster of members in the newly elected State Senate and State Assembly is printed below. The home addresses are also given. This list is printed for present and future reference. See also editorial comment, page 401.

State Senators

(Note.—Senators from even-numbered districts were elected in 1930. Senators from uneven-numbered districts were elected on November 8, 1932. Legends: R—Republican; D—Democrat.)

District	Name	Party	Home Address
1.	Harold J. Powers	(R)	Eagleville
2.	James M. Allen	(D)	Yreka
3.	Harry A. Perry	(R)	Ferndale
4.	R. R. Ingels	(R)	R. F. D. 2, Ukiah
5.	John B. McColl	(R)	1702 Placer St., Redding
6.	Charles H. Deuel	(D)	Chico
7.	Jerrold L. Seawell	(R)	303 Mariposa St., Roseville
8.	John L. Moran	(R)	Corning
9.	A. L. Pierovich	(D)	31 Sutter St., Jackson
10.	W. P. Rich	(R)	Marysville
11.	Frank L. Gordon	(R)	Gordon Valley, Napa Co., P. O. Suisun
12.	Herbert W. Slater	(D)	Box 96, Santa Rosa
13.	Charles F. Reindollar	(R)	378 Forbes Ave., San Rafael
14.	Roy Fellom	(R)	Call Building, San Francisco
15.	Thomas McCormack	(R)	Rio Vista
16.	Arthur H. Breed	(R)	Latham Square Bldg., Oakland
17.	Will R. Sharkey	(R)	931 East Main St., Martinez
18.	Herbert C. Jones	(R)	Auzerais Bldg., San Jose
19.	J. M. Inman	(R)	Insurance Bldg., Sacramento
20.	Bradford S. Crittenden	(R)	Bank of America Bldg., Stockton
21.	Harry L. Parkman	(R)	934 Rosewood Dr., San Mateo
22.	David F. Bush	(R)	Oakdale
23.	Bert B. Snyder	(R)	175 High St., Santa Cruz
24.	Andrew R. Schottky	(R)	Shaffer Bldg., Merced
25.	Edward H. Tickle	(R)	Highlands Inn, Carmel
26.	Dan E. Williams	(R)	Jacksonville, via Chinese Camp
27.	Charles King	(D)	202 West 8th St., Hanford
28.	Joe Riley	(R)	Bishop
29.	Chris N. Jepersen	(R)	Atascadero
30.	Ray W. Hays	(R)	Brix Bldg., Fresno
31.	Edgar W. Stow	(R)	Box 545, Santa Barbara
32.	Frank W. Mixter	(R)	Exeter
33.	Walter H. Duval	(R)	Santa Paula
34.	J. I. Wagy	(R)	1909 2nd St., Bakersfield
35.	Nelson T. Edwards	(R)	350 So. Glassell St., Orange
36.	Ralph E. Swing	(R)	Garner Bldg., San Bernardino
37.	Leonard Joseph Difani	(R)	4869 Kansas Ave., Riverside
38.	J. W. McKinley	(R)	621 Security Bldg., Los Angeles
39.	Ben Hulse	(R)	215 South G St., Imperial
40.	William E. Harper	(R)	3317 First St., San Diego

State Assemblymen

(Note.—All assemblymen were elected on November 8, 1932.)

District	Name	Party	Home Address
1.	Michael J. Burns	(R)	1644 Summer St., Eureka
2.	Albert F. Rose	(R)	1536 Willis St., Redding
3.	John H. O'Donnell	(D)	18 Court St., Woodland
4.	J. E. Frazier	(R)	Gridley
5.	Ernest C. Crowley	(D)	Suisun
6.	Jesse M. Mayo	(R)	Angels Camp
7.	Hubert B. Scudder	(R)	506 So. Main St., Sebastopol
8.	Roy J. Nielsen	(R)	805 K St., Sacramento
9.	Percy G. West	(R)	Insurance Bldg., Sacramento
10.	Clifford C. Anglim	(D)	321 30th St., Richmond
11.	F. C. Clowdsley	(D)	346 West Acacia St., Stockton
12.	James E. Thorp	(R)	Lockeford
13.	James M. Cassidy	(D)	1520 89th Ave., Oakland
14.	William F. Knowland	(R)	806 Grand St., Alameda
15.	William W. Hoffman	(R)	5333 El Camile Ave., Oakland
16.	Eugene W. Roland	(R)	451 Elwood Ave., Oakland

District	Name	Party	Home Address
17.	Henry P. Meehan	(D)	1449 Alice St., Oakland
18.	Charles W. Fisher	(R)	189 Florence Ave., Oakland
19.	Albert H. Morgan, Jr.	(R)	1610 Sonoma Ave., Albany
20.	Thomas A. Maloney	(R)	341 Connecticut St., San Francisco
21.	Joseph P. Gilmore	(R)	442 Excelsior Ave., San Francisco
22.	James A. Miller	(R)	440 Eddy St., San Francisco
23.	William B. Hornblower	(R)	1530 Guerrero St., San Francisco
24.	Patrick J. McMurray	(D)	1852 Church St., San Francisco
25.	Melvyn I. Cronin	(R)	1251 11th Ave., San Francisco
26.	Ray Williamson	(R)	756 Page St., San Francisco
27.	B. J. Feigenbaum	(R)	Kohl Bldg., San Francisco
28.	Edgar C. Levey	(R)	2940 Lake St., San Francisco
29.	Frederick Peterson	(R)	1702 Broadway, Burlingame
30.	Frank Lee Crist	(R)	346 Portola Ave., Palo Alto
31.	C. C. Cottrell	(R)	256 So. 17th St., San Jose
32.	E. H. Zion	(R)	310 Magnolia Ave., Modesto
33.	C. Ray Robinson	(R)	Merced
34.	Clifford R. Kallam	(D)	441 East Lake Ave., Watsonville
35.	Ellis E. Patterson	(R)	King City
36.	Lucins Powers, Jr.	(R)	480 No. Van Ness Ave., Fresno
37.	Maurice S. Meeker	(R)	Rt. 2, Box 121, Kerman
38.	Ford A. Chatters	(R)	420 No. Mirage Ave., Lindsay
39.	George R. Bliss	(R)	Carpinteria
40.	J. J. McBride	(D)	1647 Poli St., Ventura
41.	Rodney L. Turner	(D)	Delano
42.	James S. O'Connor	(D)	5726 Satsuma Ave., No. Hollywood
43.	C. Don Field	(R)	1556 No. Ridgeway Dr., Glendale
44.	Clare Woolwine	(R)	1266 Lilac Terrace, Los Angeles
45.	Charles A. Hunt	(D)	2647½ No. Griffin Ave., Los Angeles
46.	Sam M. Greene	(R)	402 East Hillcrest Blvd., Inglewood
47.	Eleanor Miller	(R)	251 So. Oakland Ave., Pasadena
48.	Frank G. Martin	(R)	745 Sacramento St., Altadena
49.	Herbert J. Evans	(R)	234 No. Canyon Blvd., Monrovia
50.	Frank W. Wright	(R)	309 East Camilla St., Whittier
51.	Wm. Moseley Jones	(D)	113 No. 21st St., Montebello
52.	Charles W. Grubbs	(D)	6529 Compton Ave., Los Angeles
53.	E. V. Latham	(R)	504 No. 2nd St., Alhambra
54.	Frank J. Rogers	(D)	5630 Irvington Place, Los Angeles
55.	Austin L. Tournoux	(D)	1624 Magnolia Ave., Los Angeles
56.	Bert V. Callahan	(D)	2031 No. Alexandria, Los Angeles
57.	Kent H. Redwine	(R)	1414 No. Genesee St., Hollywood
58.	Lawrence Cobb	(R)	1156 So. Windsor Blvd., Los Angeles
59.	Charles W. Lyon	(R)	1052 Redondo Blvd., Los Angeles
60.	Walter J. Little	(R)	1020 San Vicente Blvd., Santa Monica
61.	Charles W. Dempster	(R)	1660 West Blvd., Los Angeles
62.	Frederick M. Roberts	(R)	1415 Central Ave., Los Angeles
63.	Willard E. Badham	(R)	1183 West 30th St., Los Angeles
64.	John D. McCarthy	(D)	179½ Loma Drive, Los Angeles
65.	Herbert S. Hallner	(D)	147 West 52nd Place, Los Angeles
66.	James J. Boyle	(D)	1903 West 69th St., Los Angeles
67.	Cecil R. King	(D)	1754 E. Florence Ave., Los Angeles
68.	John T. Rawls	(D)	1906 So. Pacific Ave., San Pedro
69.	Walter H. Sullivan	(D)	705 West Cedar St., Compton
70.	Ira S. Hatch	(R)	238 Junipero Ave., Long Beach
71.	Harry B. Riley	(R)	1551 Elm Ave., Long Beach
72.	Hobart R. Alter	(R)	126 Rosewood Court, Ontario
73.	A. E. Brock	(R)	223 West Olive St., Redlands
74.	James B. Utt	(R)	Skyline Drive, Tustin
75.	Edward Craig	(R)	111 West Imperial Highway, Brea
76.	John P. Phillips	(R)	805 East Nicolet St., Banning
77.	Samuel E. Robinson	(D)	R. F. D. 1, Box 60, Imperial
78.	George B. Bowers	(R)	3435 Texas St., San Diego
79.	Bruce R. Stannard	(D)	6451 Imperial Ave., Encanto, San Diego
80.	Charles W. Stream	(R)	P. O. Box 21, Palm City

MEDICINE MEN *

London.—Fifty years ago the population of the British Isles was 35,000,000, and the number of medical practitioners about 23,000. That is to say, there was one doctor to every 1520 of the population.

Twenty years later, in 1901, the population had risen to 42,000,000 and the number of medical men to 37,000. There was therefore one doctor to every 1135 people. In 1926 the population was 48,000,000, but the number of doctors had risen to nearly 53,000. There was one doctor to every 905 people.

What does this great proportional increase in the number of doctors signify? What are its causes and what have been the results? Have our more numerous doctors made us, as a race, more healthy than our fathers were? Or do we, on the contrary, need more doctors because we are less healthy? Or is it simply that we have become more health-conscious; that we trust doctors more than our fathers did and make more use of them and that, by making more use of them, we cause them to multiply?

To find a definite answer to these questions would be difficult. But it will, I think, be instructive to turn them over in our minds and see what results from the process.

* * *

Let us begin with an established fact. The death rate (and particularly the infantile death rate) has been substantially reduced during the last half century, and the average expectation of life lengthened by a number of years. This can be attributed in part directly to the activity of doctors, in part to such national and municipal activities as sewerage, water supply, control of dangerous trades and the like—activities inspired, in their turn, by pure medical research.

Directly or indirectly, the world is in debt to the doctors for millions of lives that would, if they had not existed, have been cut short in infancy; for millions of years of an old age that, but for them, would never have been reached.

Unhappily, the millions of sickly children whose lives have been preserved and the millions of old people whose lives have been prolonged by medical science do not constitute on the whole a healthy class of the population.

The great proportional increase in the number of doctors may be partly explained by the great proportional increase in the number of elderly people and of delicate children nursed into manhood and womanhood. Add to this the fact that these intrinsically unhealthy people are mostly compelled by the circumstances of modern urbanized existence to live a thoroughly deleterious life, and you have one of the main reasons for accelerated multiplication of doctors.

* * *

There can be no doubt, I think, that doctors are trusted more and consulted at slighter provocation than they were in the past. This is due partly to the fact that, with the scientific methods at their disposal, modern doctors are able to do more for their patients than was possible in the past; and partly to the unremitting health propoganda drummed into the public mind at school, in newspapers, over the radio, in the advertisements of insurance companies and drug manufacturers. The public has been taught to buy more medical attendance in exactly the same way as it has been taught to buy more chewing gum and toothpaste.

It has been the more willing to buy inasmuch as the doctor supplies not only a physiological but also a profound psychological need.

"Since 1924," we read in the Encyclopedia Britannica, "the number of baptisms (in the Church of England) has declined at the rate of about 10,000 a year.

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* See also editorial comment, page 403.

. . . Confirmations have declined at about the same rate."

What the parson has lost the doctor has gained. With the decline of religious faith people have had to find lay confessors and lay directors of conscience. Doctors in general and psychologists in particular fitted the part to perfection. The typical medicine man of the twentieth century is, oddly enough, the medical practitioner.—Aldous Huxley in Los Angeles *Examiner*.

GOOD MEDICAL CARE DEFINED*

The coördination of all types of medical care and the application of modern, scientific medicine to the needs of all the people are fundamental in the provision of good medical care, the authors of the report state.

The "articles of faith," upon which the concept of good medical care as used in the report is based, are listed by the authors under the following headings:

1. *Good Medical Care Is Limited to the Practice of Rational Medicine Based on Medical Science.*—There is no place in modern medicine for the quack, the cultist, or the magician; any system of prevention, diagnosis, or therapy which is not founded on rational observation and deduction has a "hit or miss" character incompatible with good medical practice.
2. *Good Medical Care Emphasizes Prevention.*—Preventive medicine is by no means confined to "public health" activities. The idea of prevention must pervade and inspire all branches of medicine. Prevention, diagnosis and treatment are inseparable aspects of the science and art of medicine.
3. *Good Medical Care Requires Intelligent Coöperation Between the Lay Public and the Practitioners of Scientific Medicine.*—The coöperation of the patient is fully as important as the efficiency of the practitioner and the availability of his services. Often the best of doctors can do little for a patient who does not follow instructions.
4. *Good Medical Care Treats the Individual as a Whole.*—All the factors which concern his health—mental and emotional as well as physiological—must be weighted in diagnosis, prevention and treatment.
5. *Good Medical Care Maintains a Close and Continuing Relation Between Physician and Patient.*—Because of the complex nature of a human being and the intricate relationship between body and mind, and between the parts and the whole, a long familiarity with the patient's personality and habits is a first essential of good medical care. No amount of technical skill, no combination of mechanical and laboratory devices, is as useful in the diagnosis of many conditions as a personal knowledge of the patient's history, family situation, and general mental and physical idiosyncrasies.
6. *Good Medical Care Is Coördinated With Social Welfare Work.*—The value of medical care among the poorer economic classes is vitiated if the patient is sent back after a course of treatment into the same surroundings which gave rise to his ailment. While medicine cannot cure unemployment or abolish slums, much can be done by coöperation with the social agencies to improve the level of health among the poorer members of society.
7. *Good Medical Care Coördinates All Types of Medical Services.*—Good medical care requires that a proper balance and coördination exist among all the various agencies and different types of institutions and organizations through which medical services are provided.
8. *Good Medical Care Implies the Application of All the Necessary Services of Modern, Scientific Medicine to the Needs of All the People.*—Medicine does not adequately fulfill its functions until the same perfection of technique is within the reach of all individuals.

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* From Publication 22 of the Committee on the Costs of Medical Care. See also editorial comment, page 402.

UNITED STATES FOOD AND DRUG ACT*

No Slump in Its Enforcement

Economic conditions restricted the output of manufactured foods, medicines and drugs, last year, but did not lighten the task of enforcing the national pure food and drug law, says W. G. Campbell, chief of the Food and Drug Administration, in his report for the fiscal year 1932, made public today. The value of the year's output of canned foods alone was $745,000,000, and the value of pharmaceuticals and proprietary remedies was more than $400,000,000. These figures do not give a complete measure of the task, since the food and drug law applies equally to all foods and drugs shipped in interstate, import, and export commerce. The administration enforces five other acts, but the food and drug law is the most important.

In the year the administration collected 38,815 samples of foods and drugs. . . .

An important legal action of the year involved a Government seizure of a medicinal product, "B. & M.," for external use, manufactured and shipped by the F. E. Rollins Company, Boston, Massachusetts. . . . The jury upheld the Government's seizure of the liniment. This decision and the court's charge to the jury in the case are considered to be of highest importance to the administration in its continued enforcement of drug-control provisions of the law, according to Mr. Campbell.

Other important litigations covered interstate shipments of substandard anesthetic ether, dentifrices falsely and fraudulently labeled as useful in the cure of pyorrhea, an inhalant recommended for colds and diseases of the nasal passages, an asthma and hay fever medicine, and poisonous "ginger jake." . . . The smallness of the fines imposed in these instances, says Mr. Campbell, is illustrative of the causes which prompted the department to ask for amendments to the food and drugs act authorizing heavier penalties.

The administration sampled and analyzed numerous lots of fruits and vegetables to detect possible presence of poisonous chemical sprays—particularly cabbage and celery shipped from southeastern states. . . .

As in 1931 and 1930, no case of botulism from commercially packed foods was reported.

Surveys of fresh and canned fish were continued. . . .

"Fraudulent claims regarding the curative values of medical products have always been regarded by the administration as a definite public health menace," says Mr. Campbell. "The administration seized 285 stocks of falsely and fraudulently labeled proprietary remedies. Prosecutions were instituted in 298 cases." Antiseptics were examined, and thirty-nine stocks seized, and thirty-three consignments of misbranded dentifrices, labeled with remedial claims for pyorrhea and other oral disorders, were libeled. The quality of anesthetic ether on the market has improved, but nineteen stocks which failed to meet the standards of the United States Pharmacopeia were seized. A resurvey of all drugs defined in the United States Pharmacopeia or National Formulary was begun, and more than 1600 samples, the output of 160 manufacturers, were collected. "In general," Mr. Campbell comments, "these products show a gratifying degree of compliance with the standards."

The administration was active in protecting farmers against the sale of falsely and fraudulently labeled veterinary medicines. . . .

A total of 1678 insecticides, for use as sprays or dusts in the control of crop, live stock, and household pests, were analyzed during the year and forty-nine cases were reported to the Department of Justice. . . .

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* See also editorial comment, page 404.

In administering the caustic poison act, a resurvey of the field disclosed that some manufacturers had failed to heed suggestions for labeling and six shipments were seized. Activities under the import milk act included the inspection of eighty-four milk plants and 465 dairy farms in Canada. Products from twelve farms were embargoed and six farms were released from previous embargoes.

There was a slight increase in the total quantity of tea offered for entry into the United States. More than 90,000,000 pounds were examined and about 90,300 pounds rejected. The administration graded 144,461 barrels and drums of rosin in the course of operations under the Federal Naval Stores Act.

TWENTY-FIVE YEARS AGO*

EXCERPTS FROM OUR STATE MEDICAL JOURNAL

Vol. V, No. 12, December, 1907

From some editorial notes:

Bubonic Plague.—Plague, or pest, has existed in California since March, 1900, and possibly for a somewhat longer period. In 1894 it appeared epidemically in Hong Kong, probably coming from the interior of China, and four years later an epidemic broke out in Bombay. It could not have reached San Francisco earlier than 1894 or 1899. The first recognized and verified case was found March 6, 1900. We all know the history of events following its discovery; it is the same history of denial, abuse, antagonism, which has been written wherever an epidemic of plague has occurred. But the fight, in San Francisco, while long and bitter, was slowly but surely won, and no case was noted in the city from February, 1904, till May, 1907. During this period, however, cases had been noted in Contra Costa County and in Alameda County, and the circumstances under which they occurred seemed clearly to point to the ground squirrels as the agents carrying the disease. . . .

What To Do.—Clearly, the gravity of the situation is not to be underestimated nor brushed lightly aside with a mere negation or a boastful clamor about our "wonderful climate"; plague pays scant attention to climate, for the rat—and consequently his favorite disease, plague—thrives equally well in all climates. Nor is this a matter that concerns only California; the whole United States is interested, for the rat is a great traveler and where he goes he takes his fleas and his plague. . . .

The Press.—The newspapers, instead of helping, as they should, show a disposition to belittle the whole thing and to make the people believe that either there is no plague here, or that it amounts to next to nothing. When the disease appeared in San Francisco seven years ago, the press, with one accord, abused everybody connected with fighting the infection; the Governor was equally obnoxious and aided the press in its attacks upon the medical profession and the officers of the Marine Hospital Service. . . .

State Society.—The next meeting of our State Society will be held at Coronado, April 21, 22 and 23, 1908. The value and importance of our organization are becoming more and more clearly defined with each passing year, and it is certainly to be hoped that the attendance this year will be larger than ever before. In many sections of the state our men are awake to the duty they owe the community in the matter of the protection of the public, and they are taking active part in the "science or art of government." . . .

Splendid Support.—One of the most delightful illustrations of this progressive feeling of better things was recently offered by the medical profession of the County of Los Angeles in giving, on November 16, a banquet to the health officer of the county, Dr. L. M. Powers. Some 250 physicians gathered together to do honor to themselves and to Doctor Powers, and the cordiality and sincerity of the event could not have failed to affect and instruct everyone present. Think of it! Two hundred and fifty doctors actually coming together for the sole purpose of testifying to their support of one of their own profession! And surely it must have been an object lesson to the mayor and the members of the council who were present to see with their own eyes the attitude which the medical profession took toward the health officer. . . .

From an article on "The Prophylaxis and Eradication of Plague," by Rupert Blue, M. D., Past Assistant Surgeon, U. S. Public Health and Marine Hospital Service.

The consideration of the causes of plague naturally leads one to ask what measures should be adopted to stamp out the disease. Knowing the cause, the mode of transmission, and many of the contributory factors of its spread, the eradication of plague can be accomplished by the practical application of these basic principles. While it is improper to mention things before persons, in this case it is the natural sequence, because rat plague is the forerunner of human plague, and it is only by a careful study of the former that we may understand how to eradicate the latter. Let us first, then, consider the plague as it exists in the rodentia. . . .

From an article on "Syphilis—Extra-Genital Chancres," by Ralph Williams, M. D., Los Angeles.

The subject of the extra-genital mode of infection is of great interest to us and to society in general.

From an article on "Tabes as It Presents Itself to the General Practitioner," by H. C. Moffitt, M. D., San Francisco.

Tabes, like diabetes, chronic nephritis or exophthalmic goiter, may knock first at the door of the clinician, the surgeon or the specialist. It wears many masks besides the one of Hutchinson, and, in my experience, too often passes unrecognized. Those who have opportunity to observe, over long periods of time, patients infected in earlier years with syphilis, will appreciate what Fournier aptly termed the "initial polymorphism" of tabes. . . .

From an article on "The Occasional Fallaciousness of the Diagnosis of Enlarged Prostate Made from Digital Examination Through the Rectum," by Granville MacGowan, M. D., Los Angeles.

To those who have acquired considerable experience in the surgery of the prostate it is very well known that the examination of this gland through the anterior wall of the rectum rarely gives any accurate or dependable information as to the situation and size of the tumors which actually prevent the free passage of urine from the bladder, or create disturbances in the rhythmical contraction of this viscus.

County Societies:

Riverside County.—The first meeting of the Riverside County Medical Society, following the summer vacation, was held one month ago, at the home of our vice-president, Dr. C. Van Zwalenburg. We had with us Doctors Stanley Black and F. C. E. Mattison of Pasadena. Doctor Black addressed us on the subject of "Branch Libraries," referring to the proposed branches of the Barlow Medical Library of Los Angeles, which have been established at Pasadena and San Diego, and we hope may be located in Riverside. . . .

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* This column strives to mirror the work and aims of colleagues who bore the brunt of society work some twenty-five years ago. It is hoped that such presentation will be of interest to both old and recent members.

CALIFORNIA STATE DEPARTMENT OF PUBLIC HEALTH

Tuberculosis Record for 1931.—Dr. Frederick L. Hoffman, consulting statistician, has a most illuminating article in *The Spectator* for September 15, 1932, in which he states that in 1931 the pulmonary tuberculosis death rate reached the lowest figure on record. For fifty-nine American cities a rate of 63.2 per 100,000 was obtained, as compared with a rate of 174.4 in 1910. He states further:

"In the history of human diseases there is nothing to compare with this comparatively rapid decline in what at one time was the leading cause of death, and it is altogether fitting that the fiftieth anniversary of the discovery of the essential cause of tuberculosis by Dr. Robert Koch should be made the occasion of memorials commemorating one of the greatest events in preventive medicine."

Doctor Hoffman mentions the intensive warfare that is being carried on against tuberculosis by federal, state, and local governments, but he emphasizes the fact that it is hardly realized that what remains to be done involves infinitely more determined efforts than the earlier warfare against the disease, when it prevailed to a universal extent, affecting all strata of human society. The fundamental reasons for the reduction in the pulmonary tuberculosis mortality rate, according to Doctor Hoffman, are, first, vast economic improvements in the conditions of living, affecting the major portion of the population; second, curtailed working hours of wage-earners; third, immense improvement in shop or working conditions, yielding better air and ventilation, more sunshine, and particularly less industrial dust.

He refers to the observations on England's mortality from tuberculosis, as reported by Sir George Newman, chief medical officer, Ministry of Health. In England, in 1847, the tuberculosis mortality rate was 318.9 per 100,000 population, which by 1911 had been reduced to 103.5 and in 1930 to 63.5. The mortality rose during the war years, but not as much as was generally assumed to be the case. Probably nowhere in the world is the control of tuberculosis in all forms more actively encouraged than in the United Kingdom.

It would seem, after reading Doctor Hoffman's article, that the greatest mass results in the control of tuberculosis have already been achieved. In the future, efforts in the control of this disease must be intensified along lines of medical treatment and research. It would seem that now in the control of tuberculosis we are concerned more with a disease than with a social condition.

Fort Bragg Employs School Nurse.—Fort Bragg, in Mendocino County, is not a large community, but the services of a school nurse are provided and a large volume of work is accomplished in the interests of child health. In the report for the school year 1931-1932, an accounting is made of nearly a thousand home visits by the school nurse and 113 social service visits. During this time, fifteen school children were taken to physicians for treatment and eighteen childred were taken to the county hospital. Scarlet fever attacked more children in this community during the school year than any other communicable disease. In the course of routine physical examinations, a total of 1,322 physical defects were discovered in 736 children examined. Most of these defects had to do with nose and throat, teeth, glands, nervous system, and posture.

At a cost of approximately $650, milk and hot chocolate were served, at the expense of a child welfare committee, to children in the public schools. More than half of this sum of money was contributed by the parents of the children who were served lunches. Free servings were given to needy children, especially those who received no milk at home.

The county health officer conducted an immunization program throughout the county, in which every child whose parents gave consent was immunized. The county supplied the material and local physicians administered it. If parents were able to pay, they contributed one dollar to the physician for the administration of the immunizing material.

Requirements for Industrial Lighting.—The Women's Bureau of the United States Department of Labor has issued a bulletin (No. 94) entitled "State Requirements for Industrial Lighting—A Handbook for the Protection of Women Workers, Showing Lighting Standards and Practices." This publication may be of value to health officers, particularly those who serve in the industrial districts of the state. The information given in this bulletin is concise and well arranged. It is important that the workers' eyes be protected. Proper illumination is necessary for both health and safety. The standards for good lighting have been tested by experience, and guessing is no longer necessary.

BOARD OF MEDICAL EXAMINERS OF THE STATE OF CALIFORNIA

By Charles B. Pinkham, M. D.
Secretary

Results of Board of Medical Examiners' Examination, Sacramento, October 17 to 20, 1932

The Board of Medical Examiners of the State of California reports results of the written examination held in Sacramento, October 17 to 20, 1932. The examination covered nine subjects, and included ninety questions for physician and surgeon applicants. An average of 75 per cent is required to pass. An allowance of one per cent added to the general average is allowed by the Medical Practice Act for each year of medical practice under a license granted elsewhere than in California, provided the applicant has not fallen below 60 per cent in more than one subject.

Of a total of forty-four applicants who wrote the examination, forty-one were graduates of medical schools.

The greater number of examinees were graduates of extra state medical schools, including Austria, Canada, England, Germany, Italy, Portugal, and Russia.

The following colleges were represented:

PASSED

College	Year of Graduation	Per Cent
College of Medical Evangelists	1932	80 1/9, 84 6/9 84 2/9, 82 3/9, 81, 79 1/9
Cornell	1930	78 4/9
Loyola	1931	81 5/9
Medical College of Virginia	1931	79 5/9
McGill University Faculty of Medicine, Canada	1928	81 8/9
Moscow University, Russia	1919	69 5/9
9 per cent for year's practice equals 78 5/9		
Northwestern	1922, 82 1/9; 1930, 82 3/9; 1932, 87, 84 3/9 80 6/9, 82 5/9, 83 2/9	
Rush	1932	81
St. Louis University	1931, 75 2/9; 1932, 81 2/9	
St. Mary's Hospital Medical School, England	1923	72 5/9
5 per cent for year's practice equals 77 5/9		
Stanford University	1930, 85 6/9; 1932, 83, 77 8/9, 80 7/9	
University of California	1932	83, 80 2/9 76 7/9
University of Colorado	1932	82 3/9
University of Lisbon, Portugal	1930	84 4/9
University of Nebraska	1932	77, 82 8/9
University of Oregon	1932	81
Washington University	1932	81 6/9
Yale University	1931	84 6/9

FAILED

Carl-Frances University, Austria	1928	61 8/9
Psychoneurological Institute Medical College, Russia	1917	70 5/9
Royal University, Italy	1928	57 8/9
University of California	1932	74 6/9
University of Vienna, Austria	1932	69 7/9

* * *

The Board of Medical Examiners, State of California, reports the results of a written examination held in San Francisco, July 12 to 14, 1932. The following is a list of the successful applicants:

PHYSICIAN AND SURGEON

Elliott Leigh Adams, Sacramento.
John Martin Adams, Oakland.
William Heath Ball, San Francisco.
John Richard Beardsley, San Diego.
Harvey Dimond Beauchamp, Oakland.
Donald W. Blanche, Glendale.
Louis William Breck, San Francisco.
Mary Frances Clark, Loma Linda.
William Henry Langley Collis, Vallejo.
Leo Arthur Cronan, Sacramento.
Raul de Campos Pais do Amaral, San Francisco.
Gustav Eberhardt, Los Angeles.
Harry W. Fishler, Los Angeles.
Edward Theodore Fogel, Los Angeles.
Kenneth Victor Francis, San Francisco.
Benjamin Goldberg, Waukegan, Illinois.
Thomas Ctibor Haller, Los Angeles.
Sabro Hosoki Hara, Los Angeles.
Dean Eldon Hart, Oakland.
Mstislav Klement Koravco, San Francisco.
Lynn N. D. Kunkel, Chico.
Tim Daniel Leon, Danville.
George Porter Lyman, San Francisco.
Ian Gibbs Macdonald, Long Beach.
Charles Newell Mell, San Leandro.
Paul Henry Osiek, St. Helena.
Allen Jesse Pederson, San Francisco.
Edward Morgan Quinn, Mare Island.
John Chester Sharp, Redwood City.
Alfred George Spencer, San Francisco.
John Garfield Staub, Jr., Los Angeles.
John Daniel Stroud, Pomona.
Merlin M. Taggart, Glendale.
Harold Weatherman, San Francisco.
Thomas Warner Whittaker, Los Angeles.
Lois C. Wyatt, Los Angeles.

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Board Proceedings

At the annual meeting of the Board of Medical Examiners, held in Sacramento, October 17 to 20, 1932, officers for the ensuing year were elected as follows: President, P. T. Phillips, Santa Cruz, reëlected; vice-president, William R. Molony, Los Angeles, vice, Burt S. Stevens, deceased; secretary-treasurer, Charles B. Pinkham, San Francisco, reëlected.

Action on Hearings.—Action was taken, following legal hearings, as follows:

John C. Arnout, M. D., Culver City, on October 18, 1932, placed on probation for one year, based on his plea of guilty, July 22, 1932, in connection with alleged Veterans' Bureau fraud.

I. Jesse Citron, M. D., Hemet, license revoked October 19, 1932, based upon testimony re narcotic derelictions. He appealed from the judgment of the board and on November 14, 1932, the Los Angeles Superior Court sustained the board. Rehearing has been requested by respondent's attorney. (Previous entries, September, 1929; March, 1930; and April, 1932.)

Leighton Cornman, M. D. Right to practice suspended October 19, 1932, for aiding and abetting an unlicensed individual in connection with a secret cancer paste.

Russell Craft, M. D., Marysville, license revoked October 18, 1932, based upon alleged illegal operation. Writ of Review and Restraining Order issued returnable in the Superior Court of Judge Shields, Sacramento, December 2, 1932.

Ralph Newcomb, M. D., Upper Lake, license restored October 17, 1932, placed on probation without alcohol and narcotic privileges. (Previous entries, October and December, 1927; December, 1929; May, July, and August, 1931.)

Eugene Rinaldo, M. D., Los Angeles, license revoked October 18, 1932, based upon alleged fraudulent credentials. Previous entries September and December, 1928; February, 1929; September and December, 1930; June, 1931.)

Lee E. Smith, M. D., Oakland, probation October 19, 1932, for a period of five years without narcotic permit or possession.

Aubrey H. Staples, M. D., Oakland, license revoked October 18, 1932, following conviction of Veterans' Bureau fraud. (Previous entries, March, April, and May, 1932.)

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News Items, December, 1932

Under the caption of "Doctor Embargo," the magazine *Time* on September 26, 1932, urges "professional birth control for United States medical colleges," stating that "7,000 of 13,000 candidates for all United States medical schools were refused admittance this year." It is related that some 1,500 United States students were the previous week en route for European medical education. In this connection, comment is made that "during the past five years only 47.1 per cent of applying foreign graduates" succeeded in passing United States Board examinations.

"The 'modernists' and the 'fundamentalists' have come to grips over a suit to revoke the charter of the San Francisco College of Chiropractors and Drugless Physicians, it developed yesterday, when a mass meeting of chiropractors was held at Native Sons Hall to discuss means of fighting the litigation. The 'modernists' insist they should be permitted electrotherapy and other up-to-date methods of treating diseases, but the 'fundamentalists' demand that they use only manipulation of the patient's body . . ." (San Francisco *Chronicle,* October 24, 1932).

"Found guilty last Tuesday of violating the State Medical Practice Act, Charles B. Arnold, chiropodist, was sentenced by Judge I. Mayfield yesterday afternoon to pay a fine of $100 or serve sixty days in the county jail. Arnold was released from custody on promise to pay $25 within twenty-four hours and $25 a month thereafter until the fine was paid" (El Centro *Press,* November 10, 1932).

Reports relate that on August 29, in the Municipal Court of Los Angeles, D. Jordan Averill pleaded guilty to a violation of the Medical Practice Act and was sentenced to sixty days in the city jail, sentence being suspended.

Douglas Campbell, reported to have pleaded guilty in the Municipal Court of Los Angeles on September 30, 1932, was sentenced to serve 180 days in the city jail, suspended, and he was placed on probation for a period of one year.

"Stanford K. Claunch, asserted food specialist and lecturer, was on trial today, without jury, before Justice of the Peace C. C. Houck, on a charge of displaying advertising leading the public to believe he is a licensed physician" (Santa Cruz *News,* October 10, 1932).

"Their petition for a new trial denied, 'Dr.' V. M. Crause and Mrs. E. Hinden-Butler, officers of the Antithesian Cult, yesterday were sentenced by Acting Municipal Judge Irving P. Austin, following their conviction on charges of practicing medicine without a license. 'Dr.' Crause was sentenced to pay a $200 fine and serve fifty days in the city jail, but the jail sentence was to be suspended upon payment of the fine. Mrs. Hinden-Butler's sentence of $100 fine or fifty days in jail was suspended. Both served oral notice of appeal . . ." (Los Angeles *Illustrated Daily News,* November 15, 1932). (Previous entry, November, 1932.)

Physicians in California are warned against a subscription solicitor giving the name of F. M. Farwell, reported known in the State of Washington as Lee Delano Elliott, who is said to be calling on physicians, claiming to represent the magazine *Judge* and offering a sixty weeks' subscription for $9, promising as a premium a one-year free subscription to the *American Medical Journal* or any medical textbook of a value up to $10. He also falsely claims to be an agent of the Three Pay Sales Corporation, New York, and is said to be wanted by police in several cities. Warning is issued that his endorsement to any check payable to the Three Pay Sales Corporation is an asserted forgery.

Reports relate that John Fox on September 14 was sentenced in the Municipal Court of Los Angeles to pay a fine of $50 (or in default serve twenty-five days in the city jail) and to serve ninety days in the city jail. Jail sentences was suspended and the fine paid.

"Waiving jury trial, after the jury had been assembled to hear the case, W. D. Hoque, who claims to be a cancer and skin 'specialist,' pleaded guilty to practicing medicine without a license before Judge Shafter Matthews in the local court, Wednesday afternoon. Hoque, who has been treating Mrs. M. C. Vierra, well known Cottonwood resident for some time past, without result, gave up all hope of fighting the case when confronted by J. W. Davidson, special investigator for the State Board of Medical Examiners, who filed a complaint against the doctor. According to Davidson, Hoque is one of a family known to the medical board as the Hokum family, the father and two sons bilking trusting patients out of thousands of dollars with the so-called 'cancer cure.' Judge Matthews withheld sentence . . ." (Gustine *Standard,* September 22, 1932). "W. D. Hoque, said by authorities to have claimed a 'cure' for cancer, today was under a 180-day suspended jail sentence imposed by Judge Shafter Matthews" (Oakland *Tribune,* September 27, 1932). (Previous entries, February and April, 1929.)

"Agreeing that some legislation is needed to curb the uncontrolled activities of hospital associations in this state, members of the Health and Accident Managers' Club, discussed ways and means to attain this end yesterday with Dr. Philip King Brown, Dr. Ralph A. Reynolds, representing the San Francisco County Medical Society, and Senator Fellom. . . . H. E. McClellan, vice-president of the Maryland Casualty Company, spoke briefly in favor of such regulation and expressed an opinion that the service advanced by hospital associations was in reality insurance and that such organizations should be placed by statute under the supervision of the State Insurance Department . . ." (San Francisco *Commercial News,* October 18, 1932).

"A jury trying misdemeanor narcotic charges against Dr. N. S. Housman, physician and alibi friend of Frank J. Egan, disagreed last night after deliberating an hour and a half and was discharged by Municipal Judge Lazarus . . . (San Francisco *Chronicle,* November 5, 1932). (Previous entry, November, 1932.)

Reports relate that the appeal of Stanley Kimbro, following his previous conviction of violation of the Medical Practice Act, was dismissed and on August 5 he paid a fine of $100 imposed on him June 28, 1932. (Previous entries, July, 1927, and January, 1928.)

E. G. Latapie, holder of an electrologist's license under the Cosmetology Board, as well as a pharmacist's license, pleaded guilty in the San Francisco Municipal Court on September 1, 1932, to a violation of Section 17 of the Medical Practice Act. Judgment was suspended on condition that he no longer violate the Medical Practice Act.

Reports relate that on August 29, 1932, Georgeana H. Poole pleaded guilty in the Municipal Court of Los Angeles on a charge of violation of the Medical Practice Act and was sentenced to serve sixty days in the city jail. Sentence suspended.

"Because a patient thought his treatment was entirely too strenuous, Jacob Patzkowski, forty-seven, Reedley District rancher, was in jail here today under a sixty-day sentence, imposed by Judge R. A. Watrous for violation of the State Medical Practice Act. The patient had a dislocated shoulder and went to Patzkowski for treatment. Patzkowski proceeded to give the injured man treatments that were so rough that the patient complained to the authorities, with the result that the practitioner was arrested" (Visalia *Times-Delta,* September 27, 1932).

Manuel L. Silvera on October 21, in the Justice Court at Tulare, pleaded guilty to a charge of violation of the Medical Practice Act and was sentenced to pay a fine of $100, sentence suspended on condition of no further violation. Silvera, a young Portuguese farm laborer, took some kind of a course in magnetism by correspondence from France, for which he paid $25 and was said to have received a diploma issued by the "Sage Institute."

Reports relate that Roberto L. Sanchez on September 30, 1932, was found guilty in the Municipal Court of Los Angeles on a charge of violation of the Medical Practice Act and was sentenced to 180 days in the city jail and to pay a fine of $500. He told one patient she had an evil spirit in her, which he promised to remove, asking her to give him all the money she had, and when she did not bring him more money it is said that after he had scratched her leg with some instrument her leg became infected, he thereupon telling her that he was getting even with her by putting devils into her.

Reports relate that on October 6 Norman W. Schmitt, in the Municipal Court of Los Angeles, pleaded guilty to a violation of the Medical Practice Act and was sentenced to 180 days in the county jail and to pay a fine of $500, said sentence being suspended and defendant placed on probation for a period of one year.

"Dr. Duncan E. Stewart, prominent local physician, must post a $2,000 peace bond before five o'clock this afternoon or else be confined to the county jail, as the result of having been found guilty by Acting Justice of the Peace Chris J. Griffin in court here yesterday on charges of having threatened the life of Harry D. Constantis, tailor, of 2554 Gage Avenue . . ." (Huntington Park *Signal,* November 1, 1932). (Previous entries, September and November, 1926.)

Reports relate that on September 19, in the Municipal Court of Long Beach, J. H. Williams pleaded guilty to a charge of violation of the Medical Practice Act and was sentenced to ninety days in the city jail, sentence suspended to March 19, 1933, at which time he must have paid in full all claims, which amount to approximately $500.

"A man who gave his name as Dr. Henry C. Viereck was arrested yesterday in New Orleans for allegedly issuing worthless checks for merchandise received at the Louisiana city from San Francisco concerns. New Orleans police said they investigated his actions when he offered for deposit in a bank there $13,000 in checks drawn on a San Francisco bank, according to the Associated Press. Police Inspector Charles Maher of the Check Detail, said last night the man is also known as 'Dr. F. F. Barker' and may be wanted in San Francisco on other check charges" (San Francisco *Examiner,* October 17, 1932).

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